An Address
ON
PROFESSIONAL ORGANISATIONS.

Delivered before the South-West London Medical Society on July 18th, 1900,

BY W. G. DICKINSON, M.D. DURH., M.R.C.S. ENG., D.P.H.

GENTLEMEN,—Without presuming to criticise my predecessors or to dictate to those who will succeed me in the chair I may be allowed to express my personal opinion that it is the duty of any man who is honoured by being elected as President of this society to endeavour, as far as in him lies, to acknowledge the honour which has been done him by delivering an address either on his inauguration or on his retirement. This opinion was shared by our first President, Mr. T. S. Howell, who gave us an excellent discourse on "Our Social Position, Past and Present," and by Dr. Gilbert Richardson, who read a paper on the hospitals question. The delivery of a presidential address is also, I believe, the universal custom in all the established medical societies. A desire, therefore, to promote the interests and to extend the usefulness of this society must be my excuse for the imperfect remarks which I have to offer you to-day.

In seeking a subject for my address I have naturally found some difficulty in choosing one likely to be of interest. I have selected that of Organisation in the Profession as being the topic which (next to the now defunct Midwives Bill) has recently caused most stir in the world of medical politics. I make no apology for directing your attention to a medico-political subject, for I hold with Lord Bacon that "Every man is a debtor to his profession," and that one great means of discharging that debt is to do something towards arousing the profession from the apathy and disregard of its own interests by which it is generally characterised. What is the justification for the significant silence or the covert sneer with which any allusions to professional interests are so often met by the average well-to-do practitioner? Is he so engrossed by his own personal interests that he cannot find time for the consideration of those matters which may be injuriously affecting the profession generally? I should be sorry to think so ill of him. He usually excuses his neglect by indulging in personalities: "A. B. is a bad lot"; "C. D. is a windbag"; "Who would ever pay attention to E. F.?" Well, gentlemen, if this is so, is it not the obvious duty of our well-to-do practitioner to come forward and show A. B., C. D., and E. F. a more excellent way? In a recent article on the British Medical Association it was stated that "no member of the profession has a right to say that he takes no interest in what are called 'medical politics,' by which we understand the maintenance of the honour and the interests of the medical profession, and the consolidation and extension of its influence on public opinion and on the course of legislation in matters touching the public health, and the scientific and social interests of the profession itself. The real source of many of the disadvantages under which the profession in this country still labours is traceable to the apathy of many of its members, who cannot be roused to take a share in the determination of matters which lie a little outside the absorbing calls of actual practice or of clinical work." This has been said so often that it has become a truism, and it is a painful fact that this should be so. Is everything for the best in this best of all possible professions? Do we as a body need no remedies? Do all things go well with us? Ask the treasurers of the various professional benevolent societies and hear their reply.

After this prelude, gentlemen, I will proceed to my subject. The organisations which I propose to discuss are not those bodies which are imposed upon us by law, such as the General Medical Council, the Universities, and the Corporations. Though there is much to be said on each and all of these, I wish to consider only those voluntary associations which have from time to time been evolved by our profession for various purposes. These may be divided into several classes, such as (*a*) the benevolent; (*b*) the scientific; (*c*) those which deal with individual medical protection; and (*d*) the ethical and political. Each of these has a social side—at least to the extent of holding an annual dinner. Thus, whatever their original and main object, they all subserve the important secondary result of bringing their members together and promoting professional amenities. Many organisations, such as our own society, combine two or more of the above objects.

The benevolent bodies are four in number—the British Medical Benevolent Fund, the Royal Medical Benevolent College at Epsom, the Society for the Relief of Widows and Orphans of Medical Men, and THE LANCET Relief Fund for Members of the Medical Profession and their Widows and Orphans when in distress. The third body mentioned offers what is practically an insurance on the cheapest possible terms. A payment of two guineas per annum for a limited number of years will secure to a member's widow an annuity of from £30 to £50 and one of £10 for each child. It has always seemed to me most extraordinary that so few young professional men take advantage of this society. There are also four provincial benevolent bodies. The purely scientific organisations are too numerous to mention. Spread as they are over the whole empire, they rightly attract the chief attention of our profession. Even these, however, are mainly supported by comparatively few, and it will be safe to say that the great majority of medical men either belong to no society at all or if they do never attend a meeting. The purely scientific medical bodies in London alone number 40, besides 12 local societies such as our own, many of which deal with ethical questions. The organisations for protective purposes are of comparatively recent formation. The first was the Medical Defence Union, founded in the eighties, which for some years was indifferently supported but is now in a flourishing condition. This was followed in 1892 by the London and Counties Medical Protection Society which has steadily improved its position and membership and is now on a thoroughly stable foundation. These two bodies ought, in the opinion of the majority of their members, to unite and form one strong organisation, but owing to personal differences between their respective councils negotiations have hitherto proved unsuccessful. The responsibility for this at present rests with the Medical Defence Union, which has refused the offer of the London and Counties Medical Protection Society to submit the whole question to arbitration. Each of these unions undertakes to defend its members against actions for malpraxis, attempts at blackmailing, slanderous statements, &c., and in this they are almost uniformly successful. Their subscription is but 10*s.* per annum, and any member of the profession who does not belong to one or other of them has only himself to blame when his time of trouble comes. Another organisation of great usefulness to the profession of a somewhat similar nature is the Medical Sickness Society, which insures its members against the pecuniary loss involved by sickness and accident. 17 bodies exist in London alone for the promotion of what may be termed class interests in the profession, such as the Poor-law Medical Officers' Association of England and Wales, the Metropolitan Police Surgeons' Association, the associations of graduates of the various universities, &c. There are also, I am glad to say, an increasing number of societies both in London and the provinces for providing medical attendance on the poor under professional auspices without any lay control. One of the pioneer societies of this kind was founded in our district in 1881 under the name of the Wandsworth Medical Aid Society. The foregoing all deal mainly with the support or defence of the interests of the medical man as an individual.

We now come to those bodies which exist nominally for the purpose of promoting the interests of the profession as a whole. How far they have succeeded in fulfilling their function I propose to discuss. It is these which ought to take the chief part in the organisation of the profession.

By far the greatest and most important is the British Medical Association, which has 18 000 members and branches all over the country and in the colonies, and which publishes a weekly *Journal*. The object of the Association is stated in the Memorandum to be "the promotion of the medical and allied sciences and the maintenance of the honour and interests of the medical profession." It will be seen that the Association has a dual function. As regards the first object it has certainly done much. It holds an annual meeting at which more or less interesting scientific

papers are read and discussed, its branches meet periodically for the same purpose, it makes grants for scientific research, and its *Journal* affords the chief source of recent scientific information to thousands of medical men. As to its second, and no less important object, "the maintenance of the honour and interests of the medical profession," I do not like to say that it has done nothing, but I do say that it is extremely difficult to point out anything of consequence which it *has* done. At the best its "maintenance" of these interests has been characterised by a dignified passivity. Its *Journal* from time to time draws attention to the various reforms which have been effected since the Association came into existence, such as the enactment of the Medical Acts, the formation of conjoint boards, the partial suppression of unqualified practice, of covering, and so forth, but there is no evidence whatever to show that the British Medical Association either instituted or actively promoted any of these reforms. The reason of this is not far to seek. The Association is nominally a representative body, but its members take no interest in their representation. More than a third of them do not belong to a branch and are therefore nothing but annual subscribers to the *Journal*, and probably more than half of those who do belong to branches never attend a meeting. The Council of the Association is theoretically elected by the branches, but owing to the general apathy shown by the latter the representatives are practically coöpted year by year. The Council is further swamped by a number of vice-presidents—eminent individuals who have "passed the chair"—who are naturally satisfied with things as they are and opposed to change. The consequence of all this is that the majority on the Council is as autocratic as that of the Royal College of Surgeons of England or any other non-representative body, and instead of endeavouring to promote the honour and interests of the profession they throw cold water on any proposals having this object.

A development has recently occurred which is likely to have an important bearing on the future of the British Medical Association. The Council has always ignored any resolutions passed at general meetings which did not happen to accord with its own views. Many members have all along contended that as the Association is registered under the Companies Acts this course was illegal and that these resolutions were binding. Counsel's opinion was lately taken, and the Council has called a special general meeting for this afternoon to consider a new set of regulations for the conduct of the Association; the effect of these will be to deprive the resolutions passed at a general meeting of the validity which it is now tacitly admitted that they possess. If these regulations are carried the Council will be absolutely uncontrolled in its disposal of the resources and its direction of the policy of the Association. If they are not carried others should be substituted rendering it obligatory on the Council to refer the wishes of the members expressed in general meeting to a plebiscite of the whole body.[1] Were but a small fraction of the large income of the Association set aside for the purpose of "maintaining the honour and interests of the profession" a fund would be formed which if wisely directed would prove of incalculable benefit.

Owing to the failure of the British Medical Association to carry out this important part of its functions other organisations have arisen, having the sole object of dealing with the defence and protection of the interests of the profession at large. Of these the best known is the Incorporated Medical Practitioners' Association, which was founded in 1891, has a large membership, and now publishes a weekly *Journal* of its own. Then there are the Corporate and Medical Reform Association, recently established, which has been very active in opposing the Midwives Bill; the Hospital Reform Association, which deals with the abuses of the out-patient departments and of special hospitals; the Society of Members of the Royal College of Surgeons of England which hopes ultimately to obtain a reform of that corporation; the East Suburban Medical Protection and Medico-Ethical Society; and, latest of all, the Medical Parliamentary League started by the *Medical Times*.

In the provinces many towns have medico-ethical or protection societies. Those which have attracted most attention are the Manchester Medical Guild; the Manchester Medico-Ethical Association, founded as long ago as 1847; the County of Durham Medical Union, which has been active in supporting the colliery surgeons against the aggressions of the miners; the Coventry Public Medical Service, which is fighting a huge Dispensary, without a wage limit, embracing the greater part of the population; and the Portsmouth Medical Union. It has been for some time felt by many of those who are conscious of the desirability of effecting some practical reforms and of protecting the interests of the profession that something should be done towards bringing these various bodies into coöperation, and in May last a conference on medical organisation was held in Manchester, to which the council of this society appointed me a delegate. Unfortunately, however, I was unable to attend. Many hard things have been said about this conference, and of course criticism of any new departure is easy. As THE LANCET said at the time, the conference showed at least one thing, viz., how much the profession has need of organisation. The object of the conference, however, was an excellent one, and no doubt experience has been gained which will be useful on a future occasion. It is to be hoped that there will then be fewer papers read followed by discussions of grievances which are not thereby helped towards a remedy, and more practical work undertaken of the character indicated by the title of the conference—"Medical Organisation." One resolution appears to me to be worthy of quotation, and had I been present I should certainly have voted for it. It was as follows:—

> That this conference is of opinion that the pressing need of organisation is concentration; that the multiplication of associations other than those purely local is to be deprecated; that the size, position, and wealth of the British Medical Association make it the most suitable national medical organisation; and that the efforts of all medico-ethical associations and of the conference should be directed to the conversion of the British Medical Association into an energetic body really representative of the profession.

This seems by far the most hopeful line to take, and I should like to see every local society such as this affiliated to a reformed British Medical Association.

A paper of this kind would not be complete without some reference to the International Congress of Deontology, or medical ethics, which is to be held in Paris at the end of this month. At this Congress representatives from 27 different countries will be present, and no doubt much information as to the way in which our profession upholds its interests in other lands than our own will be gained. The price of a delegate's ticket is only 12*s*., and THE LANCET suggests that societies such as ours should be formally represented to the extent of appointing a delegate even if he should prove unable to attend.

Now, gentlemen, in conclusion, let me try to answer the question which some of you have probably been asking all the time—"What has professional organisation to do with us? We have done very well without it for a number of years, why should we trouble ourselves concerning it now?" I will reply to this question *more Scottico* by asking another, "Are we debtors to our profession or are we not?" If we are, how ought we to discharge that debt? Do we consider that the contribution of an annual guinea to the Medical Benevolent Fund or to Epsom College is a sufficient liquidation? I think that our profession has further claims upon us. It has made, and is making, great strides in scientific and intellectual advancement; we ought to see to it that in economical and ethical progress it does not lag behind. We owe this not only to our profession, but to the public which we serve. As Mr. Bryant told us long ago, our interests and those of the public are identical, and it stands to reason that the latter will be better served by a profession which is prosperous, contented, and politically free than by one a large part of which is ground down to a mere living wage and has to earn its bread in a manner which has been described as "white slavery." Men who are the fortunate possessors of good middle-class or upper-class practices do not feel the necessity for professional organisation. They may say, "Let the galled jade wince, *our* withers are unwrung." It would be worthier if they remembered the needs, and more actively supported the efforts, of a large section of their fellow practitioners, whose sole prospect of improving their lot lies in the application of the principles of coöperation and organisation.

A statement of the objects for the attainment of which the profession should organise itself in a political sense would require a separate paper. My present purpose will have been served if I have induced any who have not hitherto done so to consider professional organisation on its merits.

[1] As is now generally known, the proposed regulations were rejected by a large majority, and at the annual meeting at Ipswich a committee was appointed, half the members of which were nominated by the Council and half by the meeting, "to consider and report upon the best means of re-organising the constitution of the British Medical Association" (THE LANCET, August 4th, p. 361).

REPORT ON THE PHYSIOLOGICAL AND THERAPEUTIC ACTION OF DIGITALIS AND ITS ACTIVE PRINCIPLES.[1]

BY SIR T. LAUDER BRUNTON, M.D. EDIN., F.R.S., &c.,
LECTURER ON PHARMACOLOGY AND THERAPEUTICS AND PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL, ETC.

IN cases of heart disease digitalis is one of the most widely used remedies and it is important that we should thoroughly understand its mode of action. In the admirable treatise of Homolle and Quevenne the older literature in regard to digitalis is fully given, and both its physiological action and chemical composition are fully described as known at the date of publication. Since that time much work has been done which shows that digitalis acts on the heart, on the blood-vessels, and on the urinary secretion. The action of the drug upon frogs and mammals has been investigated. Some of the discrepancies in the opinions of different authors have, I think, arisen from considering its action upon frogs and mammals to be exactly alike. There is, no doubt, a strong general likeness between the action of the drug upon those two classes of animals, but though similar it is not identical. The effect of digitalis on the heart of the frog is to render its beats slower, its contractions more complete, and these results are obtained whether the heart be completely isolated or simply exposed and allowed to remain in the body of the animal. Not only do the beats become slower, but they become at first fuller, the heart expanding more in diastole and contracting more fully in systole. Gradually the diastolic dilatation becomes less and less until the heart stands still in systole. The stoppage of the cardiac beats is not due to paralysis, but simply to the excessive and permanent contraction of the ventricle. If it be artificially distended by allowing serum to flow in under pressure it will again begin to contract. The action of digitalis on the heart of the frog is chiefly due to its effect upon the cardiac muscle. In mammals digitalis also causes the cardiac pulsations to become slower and more powerful, but in the mammal the slowing of the heart's action is not due only to the effect of the drug upon the cardiac muscles as in the case of a frog, but is due in very great measure to stimulation of the inhibitory centre in the medulla oblongata. This stimulation may be so great that instead of the heart stopping in complete systole as in the frog it may stop in complete diastole in the dog. The slowing of the heart's action is partly due to the direct effect of the digitalis on the inhibitory centre, but it is also due to the indirect action of the drug through the rise of blood-pressure which it produces and which it is well known acts as a stimulus to the inhibitory centre. It may occur when the vagi have been divided previously to the administration of the drug, but that the slowing of the heart is in great measure due to excitation of the inhibitory centres in the medulla oblongata is shown by the fact that usually when the vagi are divided after digitalis has slowed the heart the pulsations become much quicker. That this excitation of the medulla is partly due to the rise of blood-pressure produced by digitalis is shown by the fact that when the pressure is lowered by nitrite of amyl the slowness of the heart disappears to a great extent. At the same time the inhibitory centre must be directly stimulated by the action of the drug upon it, because in some cases the heart may be greatly slowed while the blood-pressure is normal or below normal. The slowness of the heart, however, is also due to the peripheral action of digitalis upon the mechanism of the heart itself, for even in mammals the heart has been observed to be slowed by digitalis after division of the vagi, and this slowness disappears after the administration of atropine which paralyses the inhibitory mechanism. The slowness of the heart produced by small doses disappears and is succeeded by considerable acceleration when the dose is increased. This acceleration has been attributed partly to paralysis of the inhibitory power of the vagus, partly to stimulation of the accelerating nerves of the heart and partly to the increased excitability of the cardiac muscle itself. In all probability each of these factors takes part in producing the result.

There is a general consensus of opinion among pharmacologists regarding the power of digitalis to increase the strength of the cardiac contractions; but this is not the case in regard to its action on the blood-vessels, for while some maintain that its action in contracting the blood-vessels is as marked and is an important factor in the action of digitalis, others maintain that any contraction of the vessels which it produces, if any such contraction exist at all, is slight, transient, and unimportant. My own view is that contraction of the vessels produced by digitalis in mammals is very well marked, and I think it depends, just as in the case of the heart, partly upon a peripheral and partly upon a central action of the drug. I believe that digitalis has a local action on the muscular walls of the arterioles causing them to contract, and I think also it stimulates the vaso-motor centre in the medulla oblongata. By its combined action of contracting the arterioles and of increasing the power of the heart it raises blood-pressure. There can be little doubt that digitalis has the power of raising blood-pressure in the aorta by the increased action of the heart which it produces and apart from any effect upon the vessels, but in mammals we find certain phenomena connected with the rise in blood-pressure which can hardly be explained by alteration in the action of the heart alone. Thus, when the heart is stopped by irritation of the vagus the blood-pressure, as is well known, falls rapidly in a normal animal (Fig. 1), but it falls much more slowly after the administration of digitalis—an effect which I think can only be explained by contraction of the arterioles causing retention of blood in the aorta and its branches (Fig. 2). I have discussed this more fully in another place.[2] That digitalis can produce peripheral contraction of the arterioles is shown by the results of perfusion experiments in which addition of the drug to the saline solution of blood passed through an excised organ has greatly slowed the rate of flow. Whether this action is exerted entirely upon the muscular fibres of the muscles or upon local nervous mechanisms is at present uncertain. That it stimulates the vaso-motor centre in the medulla is shown by the fact that although it may sometimes raise blood-pressure after section of the cord yet it has not this effect so constantly or to so great an extent as when the cord is intact. Digitalis causes an increase to a certain extent of blood-pressure in the pulmonary circulation, though not nearly to the same extent as in the general circulation.

The diuresis which digitalis produces is probably due to increased pressure within the glomeruli of the kidneys. Digitalis causes contraction of the vessels of the kidney as well as other parts of the body, as is shown by observations of Bradford and Phillips with Roy's oncometer. At one stage of the action of digitalis, when the blood-pressure is very much raised, the secretion of urine may be completely arrested as if the renal artery were tied. As the pressure begins to fall the secretion of urine becomes greatly increased, but the urine generally shows a trace of albumin exactly in the same way as if the renal artery were first tied and then the ligature removed. If the pressure in the vessels is naturally high and the secretion of urine is abundant one could hardly expect that it would be much increased by the action of digitalis, but if the blood-pressure is low as in people with lax arteries or where the arterial system is comparatively empty in consequence of mitral regurgitation the diuretic effect of digitalis is naturally more pronounced. It acts as a local irritant when applied to the eye and causes at the same time a good deal of pain. I do not know of any experiments upon the excretion of digitalis by the stomach, but if taken for some time it certainly causes a good deal of gastric irritation with violent vomiting and loss of appetite, or even vomiting may sometimes precede any marked effect of digitalis upon the pulse when it is given in cases of heart disease.

The chemical composition of digitalis is complex and a good deal of the discordant results obtained by different observers are not only due to differences in the animals upon which they have experimented, but to differences in the physiological action of the preparations which they have employed even when these preparations have borne the

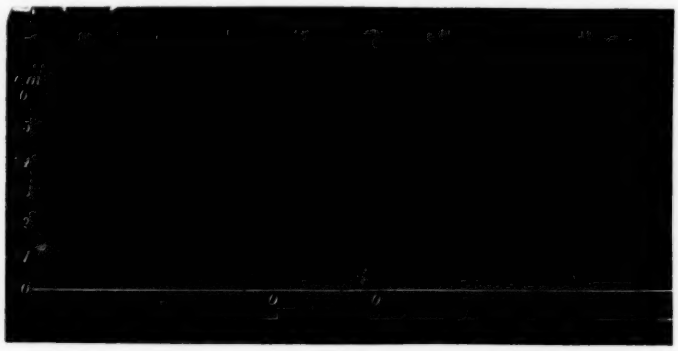
[1] Presented to the Section of Therapeutics, Pharmacology, and Materia Medica of the Thirteenth International Congress of Medicine at Paris, 1900.

[2] On the Cause of the Rise of Blood-pressure produced by Digitalis, by T. Lauder Brunton, M.D., F.R.S., and F. W. Tunnicliffe, M.D., M.R.C.P. From the Journal of Physiology, vol. xx., Nos. 4 and 5, October, 1896.

same name. According to Schmiedeberg the chief components of digitalis are digitoxin, digitalin, digitalein, digitonin, and digitin. Digitin has little or no physiological action and digitonin but little, so at present both may be dismissed from consideration. The crystallised digitalin of Nativelle consists chiefly of digitoxin, the digitalin of Homolle and Quevenne consists chiefly of digitalin, and German digitalin consists chiefly of digitalein and digitonin. The action of these drugs appears to be nearly alike in kind but different in degree, digitoxin being by far the strongest. Nativelle's digitalin, which consists chiefly of digitoxin, was found by Widal to be eight or ten times stronger than amorphous digitalin. Nativelle's digitalin in daily doses of from one to two milligrammes slows the pulse, while from three to ten milligrammes of Homolle's digitalin are required for this purpose. The German digitalin may be given in doses three times as great as Homolle's digitalin or ten times as great as that of Nativelle. The insoluble kinds of digitalin, Nativelle's and Homolle's, cause very considerable local irritation when used subcutaneously and may even lead to the formation of abscess, although the solutions are perfectly sterile. Soluble digitalin may be used subcutaneously in the form of 1 per cent. solution dissolved in equal parts of glycerine and water. From one to two cubic centimetres of this solution may be injected twice or three times a day.

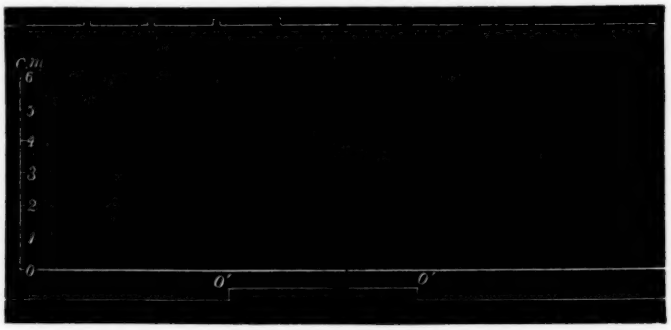
The therapeutic actions of digitalis or of its active principles are (1) that they regulate the heart's action; (2) that they assist the failing circulation; and (3) that they act as diuretics. In cases of palpitation and functional irregularities of rhythm without organic disease small doses of digitalis, such as 10 minims of tincture, are sometimes very useful. The good effect of digitalis is well marked in cases of palpitation which have come on from physical strain as by lifting heavy weights, or from anxiety and worry. In cases where the palpitation arises reflexly from irritation of the stomach better results are obtained by bismuth and rhubarb than by any cardiac tonics, although the addition of nux vomica to these two drugs assists their action. In cases of aortic regurgitation where compensation is complete digitalis is quite unnecessary. Many persons suffering from aortic regurgitation are not conscious of the fact and it may only be discovered accidentally when a physician is examining them for some other complaint. In aortic regurgitation with full compensation digitalis may possibly be harmful as the risk in such cases arises from fatal syncope. For the blood in the arterial system is emptied backwards into the heart in aortic regurgitation as well as forwards through the arterioles into the veins, the blood-pressure tending to become very low during the cardiac diastole. Should this diastole be prolonged the pressure may sink much below the normal and the risk of syncope is increased. But digitalis is of the utmost service when the mitral valves become incompetent either in consequence of damage to the valves themselves or in consequence of dilatation of the cardiac orifices from weakness after infective diseases such as influenza, or from failure of a hypertrophy consequent upon aortic regurgitation or renal disease (Fig. 3). Nor is it only when the heart has dilated so much as to render the mitral valves incompetent to close the dilated mitral orifice that digitalis is useful. It may be of service before this period by lessening the ventricular dilatation during diastole and thus diminishing the amount of blood which can regurgitate into it. At the same time by contracting the arterioles it lessens the onward flow and thus in

FIG. 1.



Fall of the blood-pressure during the arrest of the heart caused by irritation of the vagus nerve in the normal animal.

FIG. 2.



Slow fall of the blood-pressure during the arrest of the heart caused by irritation of th vagus nerve in an animal under the influence of digitalis.

a twofold manner retains the blood in the aorta during diastole, and renders the pressure of blood within it more steady, less jerking, and more nearly normal. To get the best results in severe cases the use of the drug should be associated with rest in bed and massage. The absence of exertion tends to lower the pressure which the heart has to overcome in systole and lessens the rapidity of the cardiac beats. The slowness of the pulsation produced by rest is still further increased by digitalis. Now it is during diastole that the heart has time to recuperate. It is what we might term the heart's period of rest, sleep, and repair, and by prolonging it we tend to restore the heart to its normal condition. In fact, we find that the empty

FIG. 3.

A completely dilated heart showing the insufficiency of the mitral and tricuspid valves.

arteries tend to fill, the distended veins tend to become empty, and the venous congestion which led to enlargement of the liver, indigestion, flatulence, œdema of the legs, and albuminuria, tends to disappear. The legs become normal in size, the enlarged liver becomes smaller, the digestion improves, and the urine becomes abundant and free from albumin. The pulmonary circulation also becomes freer and the shortness of breath and irritating cough become less and less and finally disappear. The dilated heart being able to contract more powerfully, the ventricular and auricular orifices become smaller and the valves, even though they may be damaged, will tend to close the orifices more completely during systole and thus lessen regurgitation (Figs. 4 and 5).

FIG. 4. FIG. 5.

Heart in full systole seen from two aspects. The mitral and tricuspid orifices are brought together by the muscular contraction so that the valves can completely close them.

In addition to this the increased force of the cardiac beats tends to oxidise the tissues more completely, for it has been shown that mechanical concussion tends to make oxyhæmoglobin give off its oxygen more freely. Moreover, the circulation in the arterioles being converted from a somewhat uniform pressure into a pulsating flow tends to lessen œdema, for it was found in Ludwig's laboratory in experiments on excised organs that when the circulation was carried on by means of steady pressure the organs tended to become œdematous and the circulation through the blood-vessels to cease, but when the natural pulsations of the heart were limited by the apparatus for artificial circulation the tendency to œdema was greatly diminished. By the use of massage in addition to digitalis a good deal of work may be taken off the heart, because, instead of having to drive the blood right round from ventricle to auricle, it will only have to drive the blood to the periphery—the movements of the masseur returning a great deal of both blood and lymph from the periphery to the heart.

Before concluding I should like to say a word or two upon the dangers of digitalis in cases of fatty heart and very high tension. It has been said with much truth that it is by no means easy to ascertain with certainty that the heart in any patient has undergone fatty degeneration, but when we find that its beats are feeble and its sounds are weak disproportionately to the size of the organ we will do well to be on our guard against possible injury from digitalis. It is evident that if digitalis causes contraction of the arterioles as well as of the heart and the heart has undergone fatty degeneration while the muscular fibres of the arterioles have not done so, the resistance to the cardiac contractions will be increased and a heart which is already hardly able to carry on the circulation may be still further hampered by the drug. In such cases, if we wish to stimulate the heart by digitalis, we ought to lessen the resistance in the arterioles by the simultaneous administration of nitrites, such as nitro-glycerine, nitro-erythrol, or ethyl-nitrite, most commonly given in the form of spirit of nitrous ether. The same precaution should be adopted in cases where the arterial tension is high and the heart is just beginning to fail, but in such cases we have also to remember the risk that may arise from the already high tension being increased and leading to a rupture of a vessel in the brain. In such cases it may be well to avoid digitalis altogether, but should it from any reason be thought advisable to use the drug, not only should nitrites be given at the same time but great attention should be paid to the condition of the bowels and liver. From pharmacological researches we learn a great deal about the action of individual drugs, but there is still an enormous field for investigation in regard to the action of drugs in combination, and although we have no definite information as to why the administration of mercury along with digitalis should greatly increase the utility of the drug there can be no doubt whatever that this is the case and that when digitalis alone fails to produce the result desired it will frequently act most efficiently if mercury be given along with it.

THE DANGER TO THE COMMUNITY OF THE WORKMEN'S COMPENSATION ACT, 1897.

BY ALBERT BENTHALL, F.R.C.P. EDIN., M.R.C.S. ENG., M. & L.S.A. LOND.

THIS Act, which was entirely a new departure, or a leap in the dark, has now been in force for over two years and there is a general consensus of opinion that its early amendment is essential. The Act, as a whole, has been in many respects a success; the working-class have derived immense benefit, employers have been able to insure at moderate rates, and therefore the trade of the country has not suffered. The Act has, however, in its working become a real danger not only to employers and workmen but to the great mass of the people, whether rich or poor; and as I understand that the Government have been watching the development of events very carefully with a view to make the Act of advantage to all without pressing unduly upon any section of the public, I think that the profession should not only exert its influence in any proposed amendment of the Act, through those members who have been brought into contact with its working, but that the whole of the profession, whether interested personally or not, should be in a position to advise upon the subject and should interest itself in a question of national importance which will influence the fortunes of the people for many years to come, if not for all time.

As many medical men of undoubted position have not

been brought in contact with the Act I propose to call their attention to its working and to the danger which will result therefrom if it is left unamended. There is the danger to all employers of largely increased insurance rates, rates which will become a serious burden upon trade. There is the danger to the working-class of loss of work, of self-respect, and of degradation to the pauper class. There is the danger to every ratepayer of having the Poor-law rates trebled, not for the advantage of the community but simply for the support of men who but for this Act would have been both able and willing to work.

The Act was intended to provide workmen with reasonable compensation for the result of any accident happening to them in the course of their employment, and skilled medical referees were appointed under it by the Home Secretary to report to county court judges and other arbitrators as to the nature of the disability in each particular case. It was naturally supposed that the Act meant what it said and that employers were only liable for the consequences of accident, and that the medical referees would protect the employers not only from malingering or exaggeration of disability but would advise the judges or arbitrators whether a disability was the consequence of accident. The working of the Act in this particular has come as an astounding surprise, for the judges have dispensed with the medical assistance provided for them and have proceeded to make a succession of haphazard judgments upon medical questions the points of which they are quite unable to appreciate. Far be it from me to animadvert on the knowledge or acumen of our judges, who are rightly looked up to as being not only absolutely impartial, but as being on legal questions fully equipped for right judgment; but no man, however brilliant, can be an expert in all subjects, and it is the peculiar province of medicine and surgery to be inexplicable to the highest trained intellects in other branches of knowledge. Even graduates in medicine and surgery practising generally, who have devoted their lives to the study of these sciences and who are excellent all-round men, call in a specialist who has had exceptional experience in some one branch when a difficult case is met with in practice. Can it be wondered at, therefore, that judges who are absolutely untrained in medicine and surgery, who have declined all advice from the impartial medical referees provided by the Act, have hopelessly failed to grasp the often intricate medical points in question and have brought the Act to its present position of a veritable danger to the community, for the reason that as it is impossible to obtain justice in the interpretation of it, employers are obliged to pay doubtful and suspicious claims rather than incur heavy law costs resulting in haphazard judgments.

The Act as it stands puts a premium on malingering and has a demoralising effect upon large numbers of workmen. The Court of Appeal, with that singular blindness which seems generally to affect laymen when asked to consider any medical subject, has by one decision altered the whole scope of the Act and enlarged it from its contemplated function of compensation for accident incurred in the course of employment to an Act compensating workmen for the effects of any pre-existing disease which may be slightly and temporarily affected by a trivial accident which would not produce any disablement in the case of a healthy man. By this decision employers are confronted with the question, Shall we employ men who are old or diseased when we know that we shall have heavy compensation to pay if a trivial accident produces death or disablement to a workman who is diseased or aged? The large employers have many of them answered this question by declining to accept the services of old men or of those suffering from any physical defect; this action will be followed by all classes of employers, and the result must be that men fully able to work and who would, barring the event of some slight accident, work for years, will be driven from employment and forced to seek relief from the Poor-law. Thus the community will be saddled with the burden of providing subsistence for men anxious and willing to work but who are unable to obtain it.

There are many points under the Act which have come into prominence, but from a medical point of view the questions of the functions of the medical referees, the assessment of the amount of disability produced by accident, and the discrimination between the effects of accident or of the results of pre-existing disease overshadow them all. On these questions I venture to hope that the profession will be solid and that each individual member will use his influence with Members of Parliament and others so that the Act may be amended and its dangers avoided.

I have appended some short notices of cases which have come under my notice and these will, I think, bring home to the profession the serious consequences which must result if the Act remains unamended. If the Government decides to leave the disease question untouched, it must be apparent that employers in the future will have either to pay very largely increased insurance rates or they will have to protect themselves by the employment of healthy and robust workmen only, but if in the amendment of the Act now in contemplation this question is dealt with and also medical referees made efficient, employers can easily bear the burden of compensation for accident only and thousands of men with families and happy homes will not be forced to the last refuge of the destitute—the Poor Law.

CASES UNDER THE WORKMEN'S COMPENSATION ACT.

Gout.—A workman in the course of his employment held a flatter for a hammerman to strike. The flatter turned and his hand was jarred. Two days afterwards gout appeared in the hand and the medical attendant stated that the man had the gouty diathesis and had had several previous attacks of gout in this same hand. The Court of Appeal held that the employer was liable, Lord Justice Collins going out of his way to explain that under this Act employers were liable just in the same way as railway companies were, where negligence was proved—that is, that they have to pay heavily for a slight injury to a weakly person when the same injury would not, perhaps, have affected a healthy one.

Bright's disease.—A bruise on the shin producing in a workman suffering from albuminuria prolonged ulceration was held to render the employer liable.

Electric shock.—A workman engaged as a bricklayer alleged that by touching a broken incandescent electric light he had sustained a shock that produced permanent disability. The hospital surgeons stated that they had not heard of any accident, but had treated the man for peripheral neuritis of alcoholic origin. The man was a typical chronic alcoholic and it was explained by medical and electrical experts that 100-ampère current could not cause the disability. The county-court judge remarked, "Oh, but they kill people by electricity," and he could not be made to see the difference between 100 ampère current working at a pressure of under 100 volts and of a current at a voltage of 3000. He was asked to feel the current of an identical lamp to the one in question, but he declined and awarded the workman £1 a week for life.

Cancer.—A workman suffering from cancer of the bladder, for which an operation had been performed, died after a further operation in the groin. Although cancer was the cause of death it was alleged that the man had accidentally wrenched his leg at a time between the two operations, and a "fatal" claim was made on the employer.

Varicose veins.—A workman with varicose veins of long standing in both legs had an accident producing a slight sprain of one ankle. When all objective signs of this sprain had disappeared he said that he could not work as his veins were much worse. Although two medical men who had watched the case all through refuted this, and although the workman did not produce any medical evidence in support of his statement, the county court judge awarded him half wages for life.

Employers have also been held to be liable in cases of phthisis where an alleged strain had been said to produce hæmorrhage; in cases of diabetes when gangrene had appeared after a trivial injury, and in cases of old age when senile gangrene had appeared after a bruise of a foot. Numberless cases have also occurred where county court judges have disregarded the medical evidence altogether and have made awards in favour of workmen who were absolutely not in any way disabled.

Cockspur-street, S.W.

MULLER'S ORPHAN HOUSES, BRISTOL.—The annual report of this institution has just been issued and it shows that the total amount received in the year for the various branches of the work without a single application being made for pecuniary help was £43,986. The orphans numbered 1729, of whom 14 had died. The school work, missionary work, and the Bible distributing have, as usual, been prosecuted earnestly during the year.

MEASLES, GERMAN MEASLES, AND THE "FOURTH DISEASE."

BY ROBERT CRAIK, M.D. GLASG.

CASE 1.—In April, 1899, a girl, aged nine years, had an illness the chief symptoms of which were pyrexia and a bright-red rash. On waking one morning she felt unwell and it was found that she had a rash. Her temperature was 99° F., the tongue was slightly furred, and the rash was very like that of scarlet fever, except that the naso-oral region was invaded by the rash which was more punctate and had less of the general flush than one expects in scarlet fever, especially on the face. As it was important to arrive at a definite opinion as soon as possible I asked a medical friend to see the case with me. He pronounced it to be scarlet fever. On the limbs and body it exactly resembled scarlet fever. I decided not to notify but to isolate. For a fortnight the patient was kept in bed and during the third week she remained in one room. It was in the course of the third week that I detected a fine mealy desquamation on the limbs but not on the hands or feet. In the course of the third week the patient several times mixed with the younger children in spite of my advice. No other case occurred in the family. This fact, taken along with the absence of any real sore throat and strawberry tongue, the very mild illness and the slight desquamation, confirmed my opinion that it had not been scarlet fever. In March, 1900, I attended the same patient for a typical attack of measles of considerable severity with broncho-pneumonia. Convalescence was tedious, but satisfactory. In May, 1900, I attended her again for a typical attack of German measles with the chains of enlarged glands in the neck. As a rule Koplik's spots are present and are easily seen at an early stage in measles. I have not seen anything like them in German measles during a recent epidemic.

CASE 2.—On March 26th, 1900, a girl, aged four years, was reported to be suffering from scarlet fever. On the previous night a rash was noticed; she had been hot and restless during the night and had vomited. She had some sore-throat and the tongue was furred. I had attended her for a typical attack of measles about two months before. The rash was very like scarlet fever, and although there was no scarlet fever in the district it was decided to notify the case. The temperature had been 101° F. for over 24 hours. The patient's temperature was 99° on the evening of the 27th and it remained normal. There was no desquamation or only the very slightest.

CASES 3 AND 4.—On April 8th the brothers of the last patient, aged respectively eight years and five years, were reported to be suffering from scarlet fever. The rash had appeared during the night and the children had been hot and feverish. The younger one had bled at the nose. They both complained of sore-throat and seemed to have slight rhinitis. Their temperatures were above 100° F. for 24 hours and one had a temperature of 102°. It reached normal in about 48 hours and remained normal. Although the rash was very marked there was no desquamation.

These three children (Cases 2, 3, and 4) were sent to the Scarlet Fever Hospital and mixed freely for six weeks with six patients the subjects of typical scarlet fever with profuse desquamation who had been sent by various medical men from several districts, and not one of them developed scarlet fever. For several reasons I think that they had not scarlet fever. 1. Case 2 was the first case in the village. The children in Cases 3 and 4 did not show the rash till 13 days after the removal of their sister. The house in which they lived was a small cottage and there was no isolation. There were no other cases meanwhile as far as is known. 2. Not one of the three children had a strawberry tongue. 3. The temperature did not remain above 100° F. for 48 hours in any of the three cases and did not rise again after disappearing. 4. Although the rash was so very marked in all three cases there was no desquamation in any. 5. These cases (Cases 2, 3, and 4) proved to be the first of an epidemic of German measles. Most of the cases were typical of German measles, the tenderness in the neck giving the clue to the disease from the beginning. None of the other cases so closely resembled scarlet fever as the three under notice, but I think that they all more closely resembled scarlet fever than measles. However, it was during this epidemic that the child who was the subject of Case 1 had her third illness. 6. There was no scarlet fever in the village at the time and no probable clue to a source of infection.

Conisborough, Yorks.

PRELIMINARY RASHES IN MEASLES.

BY J. H. THURSFIELD, M.D. OXON., M.R.C.P. LOND.
MEDICAL REGISTRAR, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

ON April 8th, 1900, a boy, eight years of age, was admitted to the hospital with high fever. There was a history that after an illness of four or five days he had had on the previous evening a smart epistaxis. He was admitted late at night, and early the next morning he presented all the signs of a severe attack of measles, the typical rash appearing later in the day. He was at once removed to an isolation ward, and the ward in which he had spent the night was placed in quarantine. His disease ran a favourable, though severe, course and he left the hospital on April 22nd. In the cot next his was a small boy, three and a half years of age, convalescent from broncho-pneumonia. On April 9th, though otherwise well, he vomited, and three days later he had a good deal of fever, without any recurrence of the pneumonia, the temperature rising as high as 103·8° F. It came down again on April 14th and he was quite well till April 18th—i.e., 10 days from the admission of the patient suffering from measles. On this day the temperature of this boy and also of a girl in the opposite cot rose in the evening, and the boy had a slight nasal catarrh but was otherwise well. The girl, however, with a temperature of 103·6° F. was very ill, and in the evening she developed a brilliant scarlatiniform eruption round both elbows and extending some way up the back of the arm. There was no sore-throat. She was, however, isolated. On the next day she had a brilliant erythema which developed in patches over the face and trunk, and the face was scarlet with a well-marked "oral ring." The boy meanwhile presented a slight blotchiness of the face and some small discrete and easily palpable papules behind the ears and on the neck and shoulders. These eruptions in both cases had disappeared on April 21st and the boy especially appeared quite well; but on the next day—i.e., 14 days after exposure to contagion—both patients had the typical measles rash. On the next day, the fifteenth, two more cases declared themselves at the further end of the ward, and two more on the sixteenth day; the last of the series following on April 26th—i.e., the eighteenth day after exposure. Of these five three had well-marked preliminary rashes appearing in all three on the day before the true measles rash; in two cases the rash was a fine papular eruption on the face, behind the ears, and on the neck, very distinct and easily seen and felt; while the third had a scarlatiniform eruption, which was not, however, uniform, but blotchy, over the neck and shoulders. Thus out of a ward of 19 patients exposed to infection 10 had already had the disease and escaped re-infection; one died from sarcoma during the incubation period; one, a baby a few weeks old, escaped infection; and the remaining seven caught the disease. The preliminary rashes were present in five of the seven cases, and in four, apart from the temperature, were the earliest manifestation of the disease, for Koplik's spots, though carefully looked for, were not found; in the fifth the tenth day of the incubation period was signalised by an explosion of "convulsions" lasting 12 hours.

These rashes were so obvious and striking that I have thought them worth recording, more especially as I find that the majority of the text-books omit all mention of them. They receive a passing notice in Fagge's "System of Medicine" and in Dr. Caiger's article on Measles in Allchin's "Manual of Medicine," but in the other books which I have consulted I have failed to find any reference to them. I believe, however, that they are familiar to the medical officers of the hospitals of the Metropolitan Asylums Board, where they appear as cases of scarlet fever. I venture to think that they are of some importance, both as a means of diagnosing measles before the appearance of the true rash, and also because in the scarlatiniform varieties they are apt to mislead the practitioner who is not aware of their occurrence.

Bentinck-street, W.

THE HOT-AIR TREATMENT OF ECZEMATOUS, GOUTY, RHEUMATIC, AND OTHER AFFECTIONS.[1]

BY DAVID WALSH, M.D. EDIN.,
HONORARY PHYSICIAN TO THE WESTERN SKIN HOSPITAL; HONORARY MEDICAL OFFICER TO THE TALLERMAN FREE INSTITUTE, LONDON, W.

THE free interchange of opinions and observations being at the root of medical progress there need be little hesitation in bringing forward a brief description of a comparatively new therapeutic method. In the present instance it is proposed to relate from personal experience the chief points of interest with regard to the superheated-air treatment of eczematous, arthritic, and other diseased conditions. The special treatment consists in the local application of dry hot air at an exceedingly high temperature. The therapeutic results of this increased administration of heat have been, to say the least of it, remarkable. In this way many chronic and painful conditions have been brought within the range of relief and sometimes of cure, and there can be no doubt that a new therapeutic agent of value has been placed in our hands.

The apparatus consists essentially of a cylinder in which a part of the patient's body, say an arm or a leg, is enclosed and fastened in by an air-tight curtain. Heat is applied by means of gas, oil, or electricity until the air inside the cylinder reaches the desired temperature. Before the treatment is applied the patient is stripped and wrapped in blankets, while the part placed inside the cylinder is covered with a layer of lint. After a varying period there is free acid sweating, together with increased frequency of pulse, while the body temperature is raised 2° or 3° F. In addition to these changes there is often an immediate and striking relief of pain and the range of movement is increased in stiffened joints. These two last-mentioned facts point to a deep therapeutic action beyond the obvious surface diaphoresis. It will also be observed that although the application of the heat is local yet the effects upon the body are general, as shown by the quickened pulse, the free sweating, and the raised temperature. For that reason pain in a foot may be relieved by placing an arm in the apparatus, and a stiff elbow may move more freely after local treatment of a leg. These are things that admit of definite statement. The free action of the skin is accompanied by increased elimination from the kidneys. Dr. Chrétien[2] of the Laennec Hospital in Paris has recorded the fact that in a case of long-standing gout the daily elimination of uric acid by the kidneys was found to rise from 57 centigrammes after the fourth bath to 89 centigrammes after the ninth. It is to this increased kidney action that the benefit of the superheated air in gouty conditions is doubtless to some extent due.

It will naturally be asked, What cases are suitable for superheated-air treatment? Generally speaking, the treatment is likely to do good in (1) painful nervous affections; (2) many painful and stiffened joints; (3) other diseases—e.g., anæmia and Bright's disease; (4) eczematous skin troubles; and (5) arthritic diseases, rheumatism, gout, and their allies.

1. *Nervous affections, sciatica, lumbago, writer's cramp, chorea, local atrophy.*—The relief of pain often obtained by the hot air naturally suggested the treatment of nerve-pains. It was found that some obstinate neuralgias and sciatica yielded readily to a few applications. At the same time it should be noted that a few cases of sciatica resist this, as they do every other form of treatment, from simple massage up to heroic nerve-stretching. On the other hand, the hot-air treatment now and then cures obstinate sciatica in a rapid and brilliant manner after the failure of other remedies. This uncertainty of result is probably due to the varying origin of the pain in a structural neuritis or a functional neuralgia. The effect of the hot air may be aided by passive motion to break down adhesions followed by a period of complete rest. Writer's cramp is a neurosis that in several recorded instances has been quickly cured. In one case under the author's care the patient was able to write a newspaper article after being treated a few times. Chorea, even of a severe type, may be cured with a quickness and success rarely known to drugs. At the Tallerman Free Institute a girl, aged 15 years, suffering from moderately severe chorea, showed marked improvement after a week's treatment. Three weeks later she was so far recovered as to be able to assist in housework, and, as her mother put it, "to peel potatoes." In five weeks she was cured.

2. *Painful and stiffened joints.*—The immediate relief to pain is one of the most remarkable results of the hot-air treatment. Were there no other good effect that alone would justify the existence of the cylinder. Narcotic drugs are only in a limited sense curative; they dull the perceptive centres but leave the seat of active mischief untouched, while they are apt to do a great deal of mental and bodily harm. With the Tallerman treatment, on the other hand, the relief is often rapid and permanent, and when it fails to relieve it has the great advantage of doing no harm. With regard to stiffened joints, the amount of good effected by the superheated air depends to a great extent on the nature of the limitation. Where there is bony union of course no good can be done so far as movement is concerned. Neither can much be hoped for when the joint is hopelessly disorganised, as in a Charcot's joint or in the later stages of osteo-arthritis. Where the limitation of movement, however, is due to fibrous ankylosis, to synovial thickening, or to adhesions generally in or around a joint, the results of the Tallerman treatment are often brilliant. After a single application the range of movement may be visibly increased and pain abolished. In some cases it is advisable to break down adhesions under chloroform. In dealing with joint-stiffening, therefore, it is necessary to make a careful diagnosis as to the structures that are at fault and the stage at which the diseased process has arrived. In early osteo-arthritis it is possible to arrest the malady, whereas at an advanced period when the articular surfaces are eburnated and there is a large amount of periarticular deposit all that can be hoped for is to diminish the pain which is now and then so prominent a symptom. Where the mischief in a joint is no longer active the hot-air treatment may be applied irrespectively of the origin of the malady, whether that be gouty, rheumatic, osteo-arthritic, gonorrhœal, or traumatic, and so on.

Gonorrhœal rheumatism.—As everyone knows, gonorrhœal rheumatism is often most rebellious to ordinary treatment. Under the hot-air treatment, however, it often yields in a way that is not less rapid than satisfactory. A typical case is the following:—

CASE 1.—A man, aged 45 years, presented himself at the Tallerman Free Institute on Jan. 29th, 1900, complaining of pain and stiffness in several joints. There was no family or personal history of rheumatism. He stated that he had suffered twice from gonorrhœa. The first attack was three years previously and he was treated at Guy's Hospital. In the second attack he went for some time without treatment, but was afterwards admitted to the Lock ward at Champion Hill Infirmary. After being there for two weeks he got pains in the wrists, shoulders, and feet. He was in the infirmary altogether for 13 months and had left two months before coming to the institute. During the whole of that time the pain never left the joints first attacked. At the institute his left wrist was found to be free, the right was locked, so that only a slight movement could be effected with much pain. He walked stiffly with the aid of a stick, and halted with the right foot. There was no tenderness in the knees and feet, but pain was complained of in all those joints. His improvement under the Tallerman treatment was rapid. The pain went from the shoulders and the left leg after the third treatment and after the fourth he walked without a stick. The right wrist moved more easily. Nine days later he felt so well that he went to work shovelling snow in the streets, but the pain came on in the feet and he had to return home. This recurrence soon yielded to treatment and he got rapidly well and has not since reported himself.

3. *Anæmia, Bright's disease, &c.*—Without entering into details it may be stated generally that cases of anæmia often benefit to a marked extent under the hot-air treatment. This may be to some extent due to the fact that chronic constipation is often markedly relieved by the treatment, especially when applied to the abdomen by what is known as the "hip-bath." Asthma, chronic bronchitis, dropsy, Bright's disease, dysmenorrhœa, and some forms of heart disease may be benefited by the treatment.

[1] A paper read before the Clinical Society of Great Yarmouth on May 15th, 1900.

[2] The Tallerman Treatment, A. Shadwell, M.B., p. 9.

4. *Eczematous and other troubles.*—Some most interesting results have followed in the case of symptomatic eczemas. In 1890 I drew attention to a class of skin inflammations which I ventured to call "excretory inflammation."[3] I pointed out that the direct or vicarious action of the skin as an excretory organ might lead to its irritation by the outward passage of various blood-borne irritants such as iodine or arsenic, the virus of certain diseases such as gout or rheumatism, or specific micro-organisms or their products as in various exanthems. In these various symptomatic rashes the skin was attacked as one of a system of excretory organs. If there be any truth in that theory then the removal of the underlying cause of a chronic excretory irritation would cure the concomitant rash. In the following case, an eczematous skin rash of several years' standing was cured by the Tallerman treatment unaided by external or internal medicine.

CASE 2.—A female, aged 45 years, unmarried, came to the Western Skin Hospital in Nov. 1898, complaining of an eczematous rash from which she had suffered for 16 months. She had been under a private medical man. At the hospital she was treated by various internal and external remedies and was seen by several dermatologists. She had an eczematous rash which began and persisted in the hands and at times involved the trunk and limbs. She was the subject of various diagnoses, such as masked scabies, eczema of gouty origin, and syphilis, and underwent thorough treatment. At

FIG. 1.

The right hand of the patient before treatment.

the end of 1899, however, she appeared to be one of those chronic patients who are the despair of every skin hospital. She was at last sent to the Tallerman Institute for the hot-air treatment. The crusted, desquamating, eczematous condition of the right hand is shown in the illustration (Fig. 1), and the left hand was almost as severely affected. The right hand only was put in the cylinder and after 11 exposures was practically free from the eczema, which remained slightly over the metacarpo-phalangeal region of the right hand. After a further series of baths both hands became perfectly normal. There was a slight recurrence in the right hand which, however, soon got well, and the patient has now remained well for some months, the illustration showing the present condition (Fig. 2).

This case shows in a striking way the power the superheated air has in affecting a general condition, as the left hand was cured of the eczema without having been placed once inside the cylinder. It also shows what the treatment can do in some cases where drugs have failed.

[3] Excretory Irritation, D. Walsh, M.D., 1897 (Baillière, London), p. 9.

In a second case a chronic palmar eczema of five years' duration following a burn in a rheumatic subject was rapidly cured. In this case it is interesting to note that menstruation became regular after the baths; it had not been regular for a year previously.

In another case still under treatment an acute eczema of the hand and forearm, attended with great œdema, has been almost cured.[4]

It may fairly be claimed, then, that the Tallerman superheated-air system has furnished a remedial agent of value in the treatment of certain obstinate inflammations of the skin. Good results have been thus obtained in various forms of seborrhœa, erythema, ichthyosis, and dry and scaly eruptions generally.

5. *The arthritic group.*—It is curious that in such well-defined diseases as gout, rheumatism, and osteo-arthritis we know so little that is definite with regard to their origin. We are agreed that an excess of uric acid is constantly present in the blood of a patient who has gout, but we cannot say whether it is produced by, or even whether it is the cause or the result of, a damaged kidney. Nor is the ætiology of rheumatism less obscure although recently there has been a tendency to attribute the malady to a bacterial origin. In osteo-arthritis we are more than ever at fault, as we have a condition in which gouty, rheumatic, vascular, and nerve troubles may be present singly or together in a malady that destroys the joints progressively. Acute gout and acute

FIG. 2.

The right hand of the patient after treatment.

rheumatism we are able to control by drugs—by colchicum and saline aperients in the one and by salicin and the salicylates in the other. Few medical men, however, would claim a definitely curative action in either case. When we come to sub-acute and chronic gout and rheumatism most of us will admit that there is little hope of controlling, and still less of curing, by means of drugs. It may be said of both diseases, as a recent writer has said of gout, "that as regards diet, exercise, and even drugs each case must be treated more or less experimentally, and later by the light of such knowledge as experience of the individual case may give."[5]

When we come to osteo-arthritis the confession of helplessness is still more emphatic. As a rule a patient attacked by that disease has nothing to look forward to but a life of progressive misery and suffering. These gaps in therapeutics are to some extent filled by the Tallerman treatment. Acute gout can be controlled by the hot-air

[4] Since the paper was read this patient has been completely cured.

[5] F. J. Smith, M.D.: Differential Diagnosis, p. 212.

cylinder. Acute rheumatism, so far as one knows, has not been thus treated. Sub-acute and chronic conditions of both gout and rheumatism are often either benefited or cured by the treatment. Last but not least, osteo-arthritis may be checked in its early stages, while later pain may be relieved, the movements of crippled joints restored, and the progress of the disease arrested. In making these general statements as to chronic joint stiffenings due regard must, of course, be paid to the condition of the joint. At the risk of some repetition it may be pointed out that in an advanced state of disorganisation all that can be hoped for is to relieve pain and check the progress of the disease.

CASE 3. *Chronic monarticular rheumatism.*—A man, aged 45 years, had chronic sub-acute pain of the right shoulder of about two years' duration. There was no clear family history of rheumatism or gout. The urine was normal. The pain was felt on certain movements of the joint. There was one acute attack in which the temperature ran up to 102° F., with intense articular pain and tenderness. There were occasional twinges of pain in the right forearm and wrist. The patient used to ride a good deal and sometimes got wet while hunting, but that did not increase the joint trouble. A glass or two of champagne, however, was almost certain to be followed by pain in the shoulder within 24 hours. Treatment of all kinds proved useless so far as a cure was concerned. Courses of drugs, salicylates, iodide of potassium, and alkalies were given. Diets of various kinds, including a vegetarian course, were tried. Prolonged massage and bath treatment at various spas—Bath, Droitwich, and Baden—afforded nothing beyond temporary relief. The effect of the superheated-air bath was marked and immediate. After 11 baths the patient was almost free from pain. He had an apparatus at his own house, and after a few months he could strike out freely from the right shoulder. He was free for something like two years, when the rheumatism recurred in the left shoulder under conditions of bad living and exposure.

CASE 4.—The patient was a married woman, aged 50 years; she had 10 children living. She came to the Free Institute on March 2nd, 1900, complaining of pain and swelling of the feet. Her father died, aged 46 years, from heart disease. Her eldest brother had "rheumatism." The patient had had rheumatic fever four times; the first attack was 22 years ago; she had had three attacks within three years. Six weeks previously swelling came on in the feet with great pain which had kept her awake at night and she had had to take sleeping draughts constantly. The hands were stiff and the arms could not be lifted above the level of the shoulders which crepitated and were tender on deep pressure. The eyes were puffed in the morning and she felt "tired." The heart's action was irregular, with loud mitral systolic and double aortic murmurs. She had suffered from cough for several winters. The specific gravity of the urine was 1020; there was no albumin. A diagnosis of chronic rheumatism with valvular disease of the heart with poor prognosis was made. Improvement under the superheated air was marked and rapid. After being treated four times the patient was able to walk better and to sleep at night without draughts. On May 30th she could walk well for some distance. The movements of the hands were free and she could touch the top of her head with the left hand and almost with the right. No cardiac murmurs were heard on the last-mentioned date. Her general health was improved and she felt hungry on walking home after treatment.

The foregoing case shows that cardiac complications need not necessarily contra-indicate the application of the Tallerman treatment. It also shows the amount of good that can be effected even in most unpromising cases. A great number of further cases, illustrating the value of the treatment, might be added. The few that have been noted will serve to indicate the chief directions of usefulness of this new remedy. Many more have been placed on record by good observers, both at home and abroad, as may be seen by a reference to Dr. Shadwell's monograph on the subject.

Bentinck-street, W.

WATER-SUPPLY OF NEWPORT (MON.).—The expenditure of the Newport Corporation on the Wentwood Water Works scheme up to the present amounts to £214,798.

SMALL-POX HOSPITAL FOR BARRY.—At a meeting of the public health committee of the Barry District Council held on August 8th it was decided to erect a permanent small-pox hospital at an estimated cost of £8160.

SOME REMARKS ON CANCER OF THE BREAST.

BY SKENE KEITH, M.B., C.M., F.R.C.S. EDIN.

A VERY great deal of interest, perhaps even greater than has ever been the case before, appears at the present time to be taken in the disease cancer. The three questions usually asked by the general public are, Is it increasing? is it hereditary? and is it curable by operation? Concerning cancer of the breast I wish to bring forward some details, not new certainly, but which often do not seem to me to have had sufficient attention paid to them when the character of the operation in that region has been discussed. I make no apology for not entering into the first two questions, for it does not seem to me that we are in a position to answer either of them definitely. To answer the first, it would be necessary to have for comparison the statistics of two considerable periods of time, with—and this is of vital importance—an equal amount of knowledge on the part of those supplying the data for the statistics. Even if we were to attempt to compare the statistics of the past 10 years with those of the preceding decade we are faced with the fact that medical education has improved and more especially in the department of pathology. Although the microscope has done wonders to help us, it is not so many months ago since we had a case brought forward, by competent men, of a cure, temporary at least, of a sarcoma by the injection of Coley's fluid. The diagnosis had been made not only clinically but also by the help of the microscope. Doubt was expressed as to the correctness of the diagnosis, and after a second microscopic examination of the specimen the tumour was pronounced not to be a sarcoma. If this represents the state of our knowledge here in London how can we expect that a hard-worked practitioner in the country can always give a correct certificate in a doubtful case?

Then when we come to the question of heredity and a patient says, "It is very strange; there was never anything of the kind in my family," how does he or she know that it is not in the family? People try to hide cancer, and it is this feeling of secrecy which helps to bring patients to us too late. It must have occurred to many practitioners to meet with cases of cancer where, for one reason or another, an operation has not been advisable and where the patient has died from something else. In such a case the friends may know nothing about it, and will truthfully say that so far as they know the disease is not "in the family."

The answer to the question, Is cancer of the breast curable by operation? is, in my opinion, most certainly in the affirmative; but not every case, even when it is apparently favourable in itself for operation. One life insurance office quite recently did not recognise as a cure a case where there was no return after seven years. The first thing to be decided, if possible, is what is a cure. A reasonable definition appears to be that the patient dies from some other disease than cancer, there being no sign of return. Within the scope of this definition a cure might be claimed if a patient died from any acute disease a few weeks after operation. This would be a true but not a legitimate claim, and it shows the difficulty of defining what is a cure, under the circumstances. The question of time, therefore, comes in, but it does not come in satisfactorily; because if a patient died 20 or 25 years after a cancerous breast had been removed no one could say positively that the disease might not have returned if she had lived another year. There must always be this doubt, and there may therefore be those who honestly hold that a cure cannot be obtained by operation. A space of three years has been arbitrarily fixed by some as the time after which a cure may be claimed. This is undoubtedly too short a time, but even suppose one fixed it at five years, there would still be some, though much less, doubt. Every year increases the patient's safety, and at the same time increases the difficulty of keeping track of the cases. The only positive gain in fixing a certain length of time as a cure is that it will cut out the patients who die from some other disease before the time limit is reached. There is another way of looking at this question of cure, and that is, can a cancerous growth which appears after, say, five or six years be reasonably called a recurrence of the original growth, or is it not a disease originating *de novo*? But this

brings us back to the heredity and predisposition question. Speculations and theories of this kind do not do anything for the patient, and while I consider that many patients can be cured, there will be, with our present knowledge, always some doubt in the patient's mind after operation. A time limit may be sufficient for statistics, but it is not long enough for the patient.

Within the past 10 years I have seen four cases where operations had been performed on the mamma for malignant disease and where the whole of the gland had not been removed. To be quite correct it would be better to say that the patients had been told that the disease was cancer. In three of these four cases there was a return, and in the fourth there has not been, so far, any return, though I was consulted as to the propriety of a third operation, which had been proposed. As it is now five years since the second operation, performed 10 weeks after the first and more than three since I first saw the case, and as the patient has still two considerable pieces of breast, which I was informed swelled up considerably after a confinement, it is probable that the disease was of a benign nature. This, however, does not affect the statement that four cases have been seen in 10 years where apparently no effort had been made to remove the whole of the mammary gland when operated on for cancer.

It might be supposed that these operations had been performed by surgeons of little experience, but this was not the case. In one the operator was a surgeon to a general hospital in a large provincial town, and in two the operations were performed by two hospital surgeons in London. In the fourth case my father was consulted, and I do not know who the operator was. This one I simply saw as a curiosity, my father never having met with anything of the kind before. This may be a unique experience, and it may be rash to argue from such a small foundation, but when we hear so much of the very formidable operations advocated at present and see the patients come as they do, when the operation has failed to cure, with the evidence of an enormous scar to show how extensive the operation has been, are we not justified in thinking that there may be something not quite right? Have the operations in the past been performed as well as they might? and—what everyone knows but what seems to be kept in the background—is it not that there are many varieties of malignancy in what appear to be ordinary cases of cancer of the breast? To take the second question first, it may be, and at least ought to be, flogging a dead horse. Compare the case of a florid, clear-skinned young woman, 35 years of age, with a hard mass in the breast, which has been noticed for a month or six weeks and which is increasing in size, with that of a thin old woman 75 years of age, who has noticed a lump for some time, she does not exactly remember for how long. Microscopically the structure of these two growths may be very much the same, but in the first the patient will be dead in a year after the operation, no matter how extensive it be; and in the second five or even ten years may show but little increase in the size of the growth. Nor is it only in the very old that we sometimes see comparatively slow growth of a scirrhous tumour, though the answer to this may be that all slow-growing tumours have been originally simple. This answer hardly holds for a case such as the following. A patient, 48 years of age, consulted me nearly six years ago on account of a hard mass in the left breast situated at the upper and inner part. The history of the tumour was that it had been known of for about six years, as a medical man had been consulted at that time. My diagnosis of scirrhous cancer was corroborated by the late Sir James Paget, and also after the removal of the breast. Rather more than a year ago there had been no return. As there had not been any perceptible increase in size in six years it is at least very improbable that the tumour was cancerous from the beginning. A case like this demonstrates also the difficulty of a time limit. Three years would undoubtedly be too short, when the tumour had been growing for at least double that length of time.

The average duration of life after a cancer of the breast has been discovered has been variously estimated at from about three to four years. This means, of course, that a certain number would die before the average time was reached, or, in other words, that the malignancy in these cases was greater than in the others, and that consequently the tendency to return would be greater in them.

To come back to the question of the possibility of some of the operations in the past having been performed without sufficient care, we must clear up the question of return of the disease. A local return—that is to say, one close to where the disease had been removed or in direct communication with the surrounding lymphatics—must be differentiated from the reappearance of cancer in some other part of the body. The reason for the return in the first is, or at least may be, that the disease has not been removed with sufficient care or extensively enough. When the disease reappears in some other part of the body no blame can possibly be attached to the way in which the operation has been performed. An example of the first was a lady, 45 years of age, whose breast I removed for a scirrhous growth, the presence of which the patient had known of for at least two years. Barely 12 months afterwards a small growth of about the size of a pea was noticed under the skin and some distance from the scar. It was supposed to have come as the result of a kick while playing with a child. I removed it freely, and also another at the end of the second year, which also was put down to a blow. Since this third operation the three-years limit has been passed. An example of the second was a case where the breast was removed and within five months there was deposit in the lungs, everything else being healthy. In the first there was a local recurrence because I had evidently not removed as much apparently healthy tissue as was necessary; in the second there was surely a centre of disease unconnected with the breast. Had one or both pectorals been removed in the first case the disease would have returned, because the deposit was in the fat superficial to the edge of the breast, and a similar operation would not have prevented the appearance of the disease in the lungs in the second case.

The Halsted operation is one which must have, from its severity, a certain amount of mortality in weak subjects, while the removal of the breast and axillary glands is an operation unaccompanied by risk to life, except the accidental risk common to all operations, no matter how trivial. What is more necessary than the removal of one or both pectoral muscles is the careful removal of the fat superficial to the breast. It may be different in hospitals now, but 20 years ago it was common to see a fairly large piece of skin excised, and little or no precaution taken to remove the fat superficial to the remainder of the breast and so, when the wound was drawn together, a thick layer would often be seen to have been left behind. Comparatively recently it has been shown that the lymphatics do pass freely into the superficial fat, and it may be that if extra attention is paid to this part during the course of the extensive operations practised by some, the improved results are due to this rather than to the free removal of muscle. To come back to the starting place, if a certain number of cases are operated upon where part of the gland only is removed, is it not possible that many more may not have sufficient tissue surrounding the breast removed and that it is in this way that the supposed necessity for the much enlarged and consequently more dangerous operation has come about?

Charles-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON AN UNUSUAL CASE OF SCARLET FEVER.

BY A. J. RICE OXLEY, M.D. DUB., M.R.C.S. ENG.

THE following case is of so unusual a character that it appears to me to be worthy of record.

On June 20th I was sent for to see a boy who was suffering from rash, sore-throat, and fever. The case was undoubtedly one of scarlet fever and was at once isolated. On the 26th free peeling commenced, the little patient meantime having done very well in every way. On the 30th he was allowed to sit up. On July 2nd the cervical glands, both sides, commenced to swell and become tender, although the temperature remained normal and the patient was in the best possible spirits. There was no albumin. He was, however, ordered to resume the fluid diet and was carefully kept in bed.

On the 7th, after a good night, the patient became disturbed and feverish (the temperature being 103° F.), but he made no special complaint beyond a feeling of pain in the back and the lower extremities. I found, however, slight effusion into the right knee-joint. On the 8th, whilst generally examining the patient, I found a circular patch of extravasated blood on the left side just above the crest of the ilium. This was at first reddish but rapidly turned to purple. The nurse, an experienced one, assured me that this patch was not present a short time prior to my visit. A few hours afterwards the whole of the gluteal region and the inner thigh were found to be covered by an enormous deep purple extravasation quite separate from the first one. Meanwhile the little fellow had not unexpectedly become very weak and showed signs of speedy collapse, which was combated by injections of strychnine and the administration of oxygen. Ergotin was also injected. Before long, however, a small extravasation appeared on the right side which rapidly assumed very extensive proportions, and, in spite of every effort, death soon supervened, when it was found that the left side from the nipple to the knee—on a line external to the nipple—was occupied by one vast extravasation. There was also a comparatively small one on the arm about the insertion of the deltoid. On the back extravasation extended from the folds of the nates to the lower dorsal vertebræ—a band of clear skin intervening. On the right side extravasation extended from about two inches above the knee (popliteal space) to the crest of the ilium but not invading the front part of the thigh at all. There was only slight albumin in the urine the last day and no blood.

What is the correct definition of such a case? I cannot, after pretty considerable experience, remember anything like it, nor can I find any report of so severe a type of hæmorrhagic complication, nor can my colleague, Dr. Stanley Wellby, who kindly assisted me with the case.

Streatham, S.W.

NOTE ON A CASE OF STRYCHNINE POISONING.

BY THOMAS LETTIS, M.D. DURH.,
AND
HORACE POTTS, M.R.C.S. ENG., L.R.C.P. LOND.

ON July 24th, 1900, at about 9.30 A.M., I (Dr. Lettis) received a message that a woman had taken some wrong medicine. On arriving at the house a few minutes later I found the patient on the floor in a state of tetanic convulsions and struggling violently. From the nature of the convulsions I came to the conclusion that she was suffering from strychnine poisoning and at once attempted to produce vomiting by administering mustard-and-water; failing in this I returned home for a stomach-pump, calling in at the same time Mr. Potts to help me.

On our return to the house the patient was having an exceedingly severe convulsive attack; respiration had ceased, she had become quite cyanosed, the pulse could not be felt at the wrist, the eyeballs protruded from their sockets, and the tongue was thrust half out.

It appeared to both of us that the patient was dying. Luckily the convulsion relaxed and the tube was passed down to the stomach, and with a funnel attached to the other end her stomach was repeatedly washed out both with warm mustard-and-water and plain warm water. After this had been done an immediate improvement was noted, the convulsions grew gradually slighter and slighter, until by shortly after 11 A.M. she remained quiet unless touched. We agreed to see her in an hour's time (12 noon). Then the patient stated that she was much better but complained of feelings of great giddiness with pains in the loins and numbness of the legs. When about to observe the condition of the pupils, which were somewhat dilated, merely touching the eyebrow produced a considerable amount of twitching of the whole body. Bromide of potassium was now given in small doses. By 4 P.M. the patient had so far recovered as to get up and walk up to her bedroom on another floor.

Twitching continued to a certain degree for 24 hours afterwards, otherwise her recovery was uninterrupted. The patient, a woman 67 years of age, was the widow of a herbalist and she had been in the habit of taking some of her husband's preparations when she thought fit. The substance that she took was a combination of various extracts—the extracts of strychnos Ignatii, valerian, and one or two others of no importance. Her statement was that feeling giddy in the morning she took some of these extracts, thinking they would act as a pick-me-up. She said that she took a little of the first on the end of a knife, mixed it with hot water, and drank it off. She then sat down to her breakfast, taking tea, a little bacon, and bread. She felt sick, endeavoured to vomit without effect, and slipped off her chair on to the floor and the convulsive attacks commenced.

The case seems to be worthy of reporting from two points of view. First, because cases of strychnine poisoning are not very common, and cases which recover are still less so; and secondly, because the drug used—namely, strychnos Ignatii, which is stated to have a greater percentage of strychnine than the strychnos nux vomica—is probably very rarely used in this country.

A CASE OF DISLOCATION OF THE SHOULDER-JOINT PRODUCED BY MUSCULAR ACTION ALONE.

BY J. GRIMMOND SMITH, M.D. EDIN.,
ASSISTANT MEDICAL OFFICER, LONDON COUNTY ASYLUM, CANE HILL.

THE patient was a man, aged 46 years, and was an inmate of the London County Asylum. His previous history was unknown. His mental condition was as follows. He was a congenital imbecile, was not epileptic, would not converse or only in monosyllables, and was frequently unsettled and excited, when he would rush about, violently waving his arms above his head. As to his physical condition, he was of good muscularity, short in stature (5 feet 4 inches), and his arms were abnormally long (30½ inches), but there was no undue laxness of the muscles.

On Feb. 4th, during an attack of excitement and whilst going through a series of extraordinary movements of his whole body, the arms being extended above and behind the head which was flexed on the chest, he dislocated his right shoulder-joint. On examination the head of the humerus was found in the subcoracoid position. This was reduced with some difficulty and kept at rest for a week. He has had several similar attacks of excitement since the above, but there has been no recurrence of the accident.

The rarity of a dislocation produced in this way leads me to believe that the above record may be of interest to your readers.

Purley, Surrey.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

STRATFORD-ON-AVON HOSPITAL.

A CASE OF INTUSSUSCEPTION IN AN INFANT 10 MONTHS OLD; LAPAROTOMY; RAPID RECOVERY.

(Under the care of Mr. HARRY LUPTON.)

WE have on many occasions pointed out the advisability of a primary laparotomy in intussusception, and Mr. Lupton's case is a good example of an intussusception which no inflation or injection could have reduced. There are, of course, cases in which an injection may prove effective, but the intussusception must not be above the ileo-cæcal valve and must be recent. It is often not possible, moreover, to be sure that the bowel has been completely reduced and much valuable time may be lost in fruitless efforts to reduce the intussusception by inflation or injection; the depressing effect also of these procedures must diminish in no small degree the chance of the child's recovery. Dr. F. H. Wiggin of New York has shown[1] that 75 per cent. of the cases are not reduced by injection or inflation. Mr. H. S. Collier advocates a

[1] THE LANCET, August 28th, 1897, p. 525.

combined method[2] in which injection is used, and if any intussusception remains a small incision is made over it and the bowel is reduced.

A well-nourished male infant was admitted into the Stratford-on-Avon Hospital at a late hour on July 4th with symptoms of intussusception. He had been seen by a medical man and the case had been so diagnosed. The child was very restless, and writhing after the manner of infants with abdominal pain. An enema had been given, but only a little blood-stained mucus had been passed. An attempt at examination at once threw the abdominal walls into a rigid state, and nothing definite could be made out, except, perhaps, that there was *not* any "sausage-shaped tumour" in the right flank. At a consultation of the staff it was decided to administer chloroform, to make a more complete examination, and, if considered advisable, to proceed at once to operation. Under the anæsthetic there was found complete absence of any swelling or hardness in the right flank, but on the left of the abdomen there was a fairly hard mass, terminating about an inch above and to the inner side of the iliac spine. Under the circumstances, and in view of the symptoms, it was decided to operate at once.

The abdomen was opened in the middle line in the usual manner. The swelling was readily found and it proved to be the descending colon having within it the invaginated ileum. There was some little difficulty in getting the fingers around the bowel down to the cæcum and delivering the whole through the wound, and when done the invaginated portion, at least six inches of it, was found to be very firmly held. It required a great deal of coaxing, pressure on the colon combined with gentle traction on the ileum, to free the small intestine. However, it was at length accomplished and the bowel did not look much the worse; there were no gangrenous patches, separated peritoneum, or tears.

The child was kept without food for the first eight hours when he became so restless that it appeared to be the lesser evil to begin with teaspoonfuls of tepid water and in a few hours more teaspoonfuls of the mother's milk. On the night following the operation it was deemed advisable to give a small dose of bromide and chloral, the restlessness still being great. On the same night flatus and fæces were passed and sleep was obtained. After that it was all plain sailing. The stitches were removed on the eighth day and the mother was allowed to take the child home with the abdominal wound firmly healed on the eleventh day.

Remarks by Mr. LUPTON.—This is one more case showing the great advantages of early operation and the uselessness of delay in such cases. Enemata and the time-honoured bellows could by no possibility have had any other effect than the delaying of operation—to the disadvantage of the child.

ROYAL INFIRMARY, EDINBURGH.

A CASE OF TRANSPERITONEAL LIGATURE OF THE LEFT COMMON ILIAC ARTERY FOR HÆMORRHAGE FOLLOWING EXPLORATORY INCISION OF A SARCOMA OF THE INNOMINATE BONE.

(Under the care of Mr. H. ALEXIS THOMSON.)

THE value of the transperitoneal ligature of the common iliac artery is strikingly shown in the following cases, for although the large amount of fat which was present increased greatly the difficulty of the operation, the extra-peritoneal operation would have been impossible, as the tumour would have been in the way. A thick abdominal wall and the presence of fat around the artery are obstacles whichever route be adopted. The chief advantages of the transperitoneal method are the slight disturbance of the peritoneum and the avoidance of any interference with the aneurysm or tumour on account of which the operation is required.

A stout woman, aged 54 years, was on March 1st, 1900, admitted into Professor Chiene's wards complaining of pain in the left hip and of difficulty in walking. She had been sent to the infirmary by Dr. M. Stewart of Finstown, Orkney. Her statement was to the effect that 18 months previously she began to suffer from pain in the region of the left hip; the pain had been more severe during the past six months. She had lost flesh rapidly and was only able to hobble about with the assistance of a crutch. Her ailment was regarded and treated as rheumatism, until a swelling appeared in the left buttock. On examination it was found that the gluteal swelling was part of a larger one extending upwards over the iliac crest towards the last rib and projecting also from the iliac fossa; fluctuation was readily elicited in both swellings and from one to the other. Passive movements were quite free at the hip-joint, but she herself was unable to move the limb.

To clear up the diagnosis, which lay between an hour-glass shaped abscess and a soft sarcoma growing from the pelvis, Mr. Thomson made an exploratory incision into the gluteal swelling on March 5th, being ably assisted by Dr. J. M. Reid, the house surgeon. Having pushed the knife through the skin, fat, and glutei muscles and inserted the finger, friable granulation tissue and a spiculated eroded condition of the venter ilii were encountered, so that the finger was easily passed through the latter into the iliac fossa. On withdrawing the finger from the wound blood escaped very freely and continued to do so in spite of very firm packing with sterilised gauze. Mr. Thomson did not think much of it at first, but as time went on it became serious and he decided to ligature the feeding artery without further delay. The internal iliac artery was out of the question as it was very close to, and probably involved in, the growth. To expose the common iliac artery the abdomen was opened in the middle line; an extensive incision was required from the loading of the parietes with fat. The intestines had not been completely emptied and some difficulty was experienced in displacing them; elevation of the foot of the table so that the patient occupied a modified Trendelenburg position greatly facilitated this as well as the subsequent steps of the operation. The parietal peritoneum lining the posterior abdominal wall was then divided in the line of the common iliac artery, but a very thick layer of fat had to be traversed before the pulsation of the vessel could be recognised. The artery desired being on the left side there was no difficulty with the vein. It was tied with ordinary thick catgut, passed by means of a Macewen's hernia needle. The disappearance of pulsation in the left common femoral at the brim afforded confirmation that the desired artery had been satisfactorily obliterated.

The abdominal wound was closed, the left lower extremity was wrapped up in cotton-wool, and the foot of the bed was elevated. The peculiar restlessness of the patient necessitated her being kept slightly under the influence of morphine. The bladder had to be emptied by the catheter. So far as the ligature of the artery was concerned her progress was quite satisfactory; the corresponding lower extremity retained its warmth from the first. She complained of cramps and of complete loss of power in the limb. The wound in the buttock never bled, but it was still discharging pus when she left the hospital two months later.

Three months after the operation her medical attendant wrote that her strength was holding out well, but that the tumour was increasing in size. There was no return of pulsation in the femoral artery.

Remarks by Mr. THOMSON.—All those who have practised the transperitoneal ligature of one or other of the iliac vessels refer to the ease and simplicity of the operation. When Professor Annandale tied the internal iliac artery for gluteal hæmorrhage I had the privilege of assisting him and the vessel was certainly exposed with ease and rapidity. In the case above recorded there was considerable difficulty on account of the quantity of fat in the abdomen and especially behind the peritoneum. While the transperitoneal operation is a great advance on older methods it should be pointed out that it is not quite the simple procedure it is described to be when the patient is above middle life and the abdomen is loaded with fat. The Trendelenburg position is a great advantage.

[2] THE LANCET, August 26th, 1899, p. 561.

NEW ASYLUM NEAR ABERDEEN.—The plans for this institution, to be erected by the Aberdeen City Parish Council at Kingseat, Newmachar, about 10 miles from the city, have now been completed by the architect, Mr. A. M. Mackenzie, Aberdeen, and have been approved by the Lunacy Board for Scotland. The asylum will be on the village plan, following the model of that at Alt Herbitz, Prussian Saxony, and it is estimated that the total cost of the scheme may amount to £100,000. The hospital will accommodate 700 patients and the administration block will be in three storeys. Altogether the buildings will cover a large area.

Reviews and Notices of Books.

Tuberculosis: its Nature, Prevention, and Treatment. By ALFRED HILLIER, B.A., M.D., C.M. Edin. Illustrated. London: Cassell and Co. 1900. Pp. 243. Price 7*s.* 6*d.*

TUBERCULOSIS offers many aspects for study. These have been considered under different headings and in many different volumes, but in the work now before us Dr. Hillier has dealt with all the varieties of tuberculosis affecting the several parts of the body, but pulmonary tuberculosis naturally occupies the chief place.

The clinical forms of tuberculosis are well described, Dr. Osler's able and scientific classification being adopted. The part played by micro-organisms other than that of tubercle—notably, the streptococcus and staphylococcus pyogenes aureus—in the stages of softening and cavity formation is commented on at length, and in support of the very strong views of Koch, that the pyrexia in pulmonary tuberculosis is due to the toxic products of these septic micrococci, Dr. Hillier points out that lesions which are purely tuberculous in character even when completely broken down, but to which no septic cocci have found entrance, produce little or no pyrexia. The various forms of so-called "cold abscess" with which tuberculous disease is associated are further instances corroborating Koch's views.

Dr. Hillier's description of the symptoms and physical signs of pulmonary tuberculosis is exceedingly well written, but we think he has been a little unfortunate in his account of the "Establishment of the Disease" and his remarks lay themselves open to misconception. For instance, the following is very liable to be misunderstood coming under this head: "A slight attack of hæmoptysis in an apparently healthy and robust individual may be the only cause of his seeking medical advice. Development of other clinical signs may follow rapidly or be considerably delayed." From this statement the reader might well conclude that the hæmoptysis started the tuberculous trouble, but this is by no means Dr. Hillier's opinion, for he explains two pages afterwards that in regard to "'precursory hæmorrhages' ..... there is little doubt that in the great majority of cases the disease is in existence at the time of the hæmorrhage." This is the view now adopted by nearly all observers.

Dr. Hillier's comments on heredity and communicability of pulmonary tuberculosis are also most interesting, and he strongly supports those authorities who maintain that the influence of the latter far outstrips that of the former. The statistics in favour of the hereditary character of the disease are very misleading, and, as the author remarks, "the demands which scientific criticism is entitled to make of statistics are in no way satisfied by such data as these."

The part of the work dealing with the treatment of pulmonary tuberculosis is, however, the most instructive; especial reference is, of course, made to the "open-air treatment." Dr. Hillier's experiences in South Africa entitle him to speak with authority. He discusses in an able manner the beneficial and curative effect of pure air on the patient suffering for pulmonary tuberculosis from a theoretical as well as from a practical point of view and quotes the arguments of Daremberg, Reiset, Brown-Séquard, d'Arsonval, and others in favour of the scientific basis for the open-air treatment.

We would especially draw attention to the remarks on the effects of wind, rain, and fog. Dr. Hillier wisely sets importance on the distinction between open-air and exposure, which seems to be ignored by the most ardent advocates of the sanatoria method of treatment. The Nordrach *régime* is fully described, and numerous illustrations give a good idea of the buildings, rooms, and shelters to be found at the various establishments now open.

Manuel de Gynécologie, Médicale et Chirurgicale. (Manual of Gynæcology, Medical and Surgical.) By A. LUTAUD. Fourth edition. With 607 illustrations. 8vo. Paris: A. Maloine. 1900. Pp. 700.

As the author remarks in his preface anyone who compares the first edition of this book, which appeared in 1883, with this the fourth edition cannot fail to be struck with the development which it has undergone. In no other department of medicine perhaps would a text-book 17 years old be so completely out of date as in gynæcology. In those days gynæcologists were still physicians, at the present time they are to a very great degree surgeons, a change which has quite recently been recognised by the formation of a new appointment at one of the large London hospitals—viz., that of obstetric surgeon. Professor Lutaud has certainly not failed to advance with the times. We are not in a position to say what was the exact character of the first edition of this book, but as to the surgical tendency of the present edition there can be no doubt. When we remark that the author says he has preserved what he could of rational medical treatment, and when we note the large part of the book devoted to the description of various surgical procedures, we are more than ever impressed with the fact that medical gynæcology would appear to be rapidly becoming obsolete. The work, a manual of some 700 pages, is divided into eight parts. The first part treats of the anatomy, physiology, teratology, and malformations of the genital organs, matters about which little or no difference of opinion exists and which are adequately described. The various methods of examination and exploration are described in the second part. For specular examinations the author prefers one or other of the forms of bivalve speculum, such as that of Cusco. Vulliet's method of dilatation of the cervix is recommended. This consists in preliminary dilatation of the cervical canal with steel sounds followed by the introduction of tampons of iodoform gauze which are left in place for 48 hours and the number of which is gradually increased. In this way, in a time varying from nine or 10 days to five weeks, complete dilatation of the cervix can be obtained. The method is an efficient one but too slow for general use. A solution of creosote in glycerine is employed by the author for applying to the cervix after curettage. Pelvic massage is shortly described and recommended for various pelvic conditions. The statement is made that the bacillus of Koch has been found in the secretions in cases of esthiomène, but no authority for the statement is given. There is no description of tubercular disease of the vulva and it is not clear whether the author regards esthiomène as identical with this condition or not. Heredity is regarded as being a factor in the development of excessive hypertrophy of the labia minora, and Scanzoni's case of a woman and her three daughters who all presented this deformity is quoted. In the treatment of vaginismus Professor Lutaud recommends splitting the recto-vaginal septum, exposure of the sphincter vaginæ muscle, and its subcutaneous division followed by stretching.

For the purpose of influencing the endometrium in cases of chronic metritis the use of sponge tents is advocated. The tents, kept in an alcoholic solution of perchloride of mercury or naphthol, are introduced into the uterus and left in for from six to eight hours. On removal the uterus is irrigated. In cases where this method of treatment alone does not cure the tents are soaked in a solution of salicylic acid and alcohol and re-introduced. Guinard's novel method of treating inoperable cases of carcinoma of the cervix is described—viz., the introduction of a piece of carbide of calcium into the vagina, the acetylene gas set free being supposed to act upon

the growth. Professor Lutaud summarises the very important communication read by Ricard to the French Congress of Surgery, 1899, in which the advantages of the abdominal route in dealing with all cases of cancer of the uterus are strongly urged. Even when cancer of the cervix is in its early stages the glands may already be involved, and Ricard considers it the duty of the surgeon to determine with certainty whether this be so or not. This can only be efficiently done if the abdominal operation be performed. We have quoted enough to show that the book is a useful compilation of the main facts of gynæcology. The author is evidently a believer in minor gynæcology, and the description of the various minor operations and forms of treatment are especially fully described. Much of the pathology, especially that relating to uterine displacements, is not in accord with the views held in this country, and many forms of pessary are recommended for use which as far as English practice is concerned are entirely obsolete. The book would have had a greater value had the author expressed a more decided opinion upon many of the methods of treatment and operations which he describes and had he given us more fully the results of his own experience. The illustrations are numerous but of poor artistic merit.

Tropical Diseases: A Manual of the Diseases of Warm Climates. By PATRICK MANSON, C.M.G., M.D., LL.D. Aberd., F.R.C.P. Lond., F.R.S., &c. With 114 Illustrations and two Coloured Plates. Revised and enlarged edition. London, Paris, New York, and Melbourne: Cassell and Co., Limited. 1900. Price 10*s.* 6*d.*

THE first edition of this work was published in 1898 when it was reviewed in our columns.[1] During the relatively short time which has intervened between that and the present date, owing to the keen way in which the study of tropical diseases has been pursued, the progress made has been such that the need has been felt for the appearance of a revised and enlarged edition of Dr. Manson's work. The merits of this manual have been so generally recognised that we are not now called upon to dwell upon them or to make any fresh journey over the ground previously traversed by its author in 1898. It will suffice on the present occasion to say that the new edition has not only been enlarged by the addition of fresh matter but that its pages bear the marks of having been very carefully revised. To begin with the most obvious change, the volume has grown from 607 to 684 pages and contains 114 illustrations in place of 88, which was formerly the number (two coloured plates being common to both editions).

The numerous investigations which have been, and are still being, so keenly pursued into all that is comprised in the term "malaria" make up a most interesting chapter in the medical history of our time. The subject affords an excellent illustration of a point upon which Dr. Pye-Smith dwelt in his address in medicine at the annual meeting of the British Medical Association at Ipswich on "Medicine as a Science and Medicine as an Art"—namely, that medical art without science is not only unprogressive, but almost inevitably becomes quackery. For the diagnosis of malaria the practitioner in tropical countries needs to have recourse to the microscope and to know how to apply this test as much as the practitioner in this climate requires to use the stethoscope in his ordinary practice. But this is only to take one and a very limited though practical view of the subject. The researches in connexion with the malarial parasite have been conducted with a patient, refined, and subtle skill, and have led to views and conclusions which would probably a few years ago have been put down to an exercise of the scientific imagination. Some of the conclusions, however, are capable of verification and can be demonstrated as facts, while others are probable or merely tentative and conjectural but very suggestive nevertheless, and requiring further investigation. Anyway, the method that has been adopted throughout is a strictly inductive one—that of tracking the dependence of one event upon another in logical sequence. Those of our readers who have already heard, or read in THE LANCET,[2] Dr. Patrick Manson's two clinical lectures on Malaria and the Malarial Parasite delivered at the Medical Graduates' College and Polyclinic are in a good position to know how the matter stands at the present time. In addition to the section devoted to the consideration of the fevers met with in tropical and sub-tropical climates we have been more especially interested by the chapters on Beri-beri, Hill Diarrhœa, and Sprue, and by those on Filariasis and Leprosy. We may parenthetically call attention, in regard to the last-named disease, to a paper by Professor Sticker of Giessen, who was one of the German Plague Commission in India. Professor Sticker's inquiry goes to show that the nose is peculiarly the seat of leprosy. The lesion in the nose, which generally contains and discharges large numbers of bacilli, is, he says, the single constant change in all cases of leprosy in every form and stage of the disease.

We have no hesitation in saying that this revised and enlarged edition of Dr. Patrick Manson's manual is an excellent guide-book to the study of tropical diseases. It is written in a clear style and in a scientific spirit and is brought up to date; the descriptions of disease are good and well illustrated and—to mention a small but important matter for facility of reference—the book is supplied with a good index.

THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on Tuesday, August 7th, Dr. J. ANDREW, the President, being in the chair.

The PRESIDENT referred to the death of H.R.H. the Duke of Edinburgh and read the following telegrams which had passed between him and Sir A. Bigge:—

Please convey to Her Majesty the Queen the respectful and sincere sympathy of the President and Fellows of the Royal College of Physicians of Edinburgh on the occasion of the death of His Royal Highness Alfred Duke of Saxe-Coburg and Gotha, Duke of Edinburgh.

The President, Royal College of Physicians of Edinburgh.—The Queen desires me to convey to the President and Fellows her thanks for their kind message of sympathy.—A. BIGGE.

The SECRETARY laid on the table the annual statement by the governing board of the School of Medicine of the Royal Colleges in terms of the constitution. The statement showed that the classes of the school have been largely attended and that the management and discipline have been satisfactory. The College elected Dr. J. Andrew (President), Sir John Batty Tuke (Vice-President), Professor A. R. Simpson, Dr. P. A. Young, and Sir John Sibbald to be representatives of the College on the governing board of the School of Medicine of the Royal Colleges. Dr. Andrew was appointed by the council representative of the College on the conjoint committee of management of the triple qualification in room of Dr. J. Wyllie, resigned. Dr. G. W. Balfour was appointed Morison Lecturer for the year 1900-1901.

On a letter from the Town Clerk of Edinburgh the College agreed to express its willingness to enter into an arrangement with the Magistrates and Town Council for the bacteriological examination of suspected food-stuffs, &c., in respect of diphtheria and typhoid fever on the understanding that the proposed facilities should be made equally available to all classes of citizens.

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[1] Vide THE LANCET, June 18th, 1898, p. 1694.

[2] THE LANCET, May 19th (p. 1417) and July 21st (p. 153), 1900.

THE LANCET.

LONDON: SATURDAY, AUGUST 18, 1900.

OUR profession is not militantly political. But it is one that cannot be neglected by politicians with impunity, for it deals with human interests and social and sanitary conditions that affect greatly the welfare of the nation. Moreover, it has the political influence belonging to men of general and special education who have chiefly themselves to blame if this influence is not considerable. We do not pretend to say to which side the political bias of the medical profession leans, but it is safe to allege that if it is largely conservative in its respect for good precedents it has that admixture of progressiveness which comes from contact with the revelations of ever-advancing science. If the medical profession is estranged from the Government in any degree more than it was when they came into office, it is only because the Government have not acted up to the measure of their own strength. On two or three subjects they have deeply disappointed all medical opinion. On the vaccination question they yielded feebly, and they have since broken a promise to bring in legislation requiring revaccination. The action of Mr. RITCHIE in the matter of the Companies Bill was again very unsatisfactory. To lose the opportunity of altering the law which the Companies Bill offered so as to prevent any day amalgamations from being used for covering unqualified practitioners in medicine was, we think, a piece of political cowardice. The medical profession is not likely soon to forgive this betrayal of its interests and the interests of the public. Mr. RITCHIE did more than lose the opportunity. He was active in his opposition and went out of his way to use the influence of the Government against the much-needed clauses, with the easy suggestion that a more convenient season would come for new legislation to prevent laymen from practising medicine. He should have known that the most convenient season for such legislation is the earliest. To give another instance of the way in which the Government have shown weakness and timidity we need only note their attitude towards proposed legislation for abating the drunkenness of the nation. In France and Russia grave efforts in this direction are being made; but all such efforts in this country, however modest or inadequate, have been met by the Government with discouragement and sometimes with cynicism.

The midwives question was dealt with in an unsatisfactory way by the Government. It should either have been taken up as a Government question and dealt with seriously and responsibly upon the definite principles formulated by the General Medical Council and the British Medical Association, or it should have been left alone. Neither course was pursued. A private Bill which contained some objectionable provisions, passed the second reading and emerged unchanged from the Standing Committee on Law. The Government had the opinion of the General Medical Council before them and knew the views of the medical profession upon the question, yet there were some indications in the late session that had this Bill been proceeded with they would, under political pressure, have made it their own. This would have been an unpardonable breach of faith. It must be clear to the Government that the assent of the profession to such legislation is strictly conditional, the condition being that the new measure shall put an end to the race of Gamps whose ignorance and uncleanness introduce terrible risks into even the most straightforward cases of labour. We should be glad to be convinced that in this matter we are wrong in doubting the good faith of the Government, but previous experiences cause us grave misgivings. It savours of deception for the Government at the outset to ascertain the views of the General Medical Council and to seem to adopt them, if at the last they intend to disregard those views. Again, a much needed measure to amend the lunacy laws, after a successful passage through the House of Lords, failed to get into the statute book, while a Bill to improve the position of medical officers of health and sanitary inspectors met a like fate through want of help from the Government.

Lastly, a Bill in passing which there should have been no difficulty—the Medical Acts Amendment Bill—was withdrawn. This was a very simple measure for making more clear and definite the power of the General Medical Council to remove from, and restore to, the Register the names of practitioners guilty of professional misconduct. We recognise that the Government had no other intention than to pass the Bill in the form suggested by the General Medical Council and virtually approved by all the universities and licensing bodies granting medical qualifications. But its postponement to the very end of the session placed it at the mercy of any unreasonable member and, though non-contentious, it had to be withdrawn. Such ineffective handling of measures of great importance, such weak support of principles which should be strongly asserted in regard to legislation affecting health and life, are very disappointing in a Government with a great following and deserve the serious condemnation of the medical profession. It is by no means clear that if the Government were to be defeated at the polls we should fare any better at the hands of any other possible Government, but it would not be easy to fare worse. It is painful to us to write in such tones of complaint and suspicion of a Government who have in some ways earned the lasting gratitude of the nation. But with every readiness to make allowance for unprecedented obstacles and anxieties we cannot excuse the complete want of consideration which has been persistently extended by the Government to the views of a highly educated and liberal-minded profession.

WE recently published[1] the Ingleby Lectures delivered at the Mason University College, Birmingham, by Dr. O. J. KAUFFMANN. The subject selected was "The Commoner Neuroses of Childhood, their Pathology and Treatment." Dr. KAUFFMANN was happy in the choice of a theme and his remarks will be read with great interest. The group of

[1] THE LANCET, June 30th (p. 1859) and July 14th, 1900 (p. 75).

maladies known as "functional nervous disorders" contains ailments of daily occurrence causing much distress to the little sufferers and much anxiety to their friends and parents. We agree with the lecturer that much is still to be learnt regarding the nature and causation of these neuroses and much in regard to their correct and complete diagnosis, and that something still remains to be done in the way of treating them successfully, to which end a true appreciation of their nature is the first essential step.

The disorders considered by Dr. KAUFFMANN are—chorea, saltatory or salaam spasm, tetany, night-terrors and dreaming, nocturnal enuresis, migraine and allied conditions, and epilepsy. Dissimilar though these diseases may at first sight appear yet they have several points in common. They occur with greatest frequency in childhood, some, as chorea and nocturnal enuresis, being almost limited to that period of life, at any rate as regards their onset; further, they are more frequent in the female sex, and where this appears not to hold true entirely, as in migraine and epilepsy, it is nevertheless a fact that females are more disposed to be the sufferers during the time of adolescence. In the course of the lectures it was demonstrated that these neuroses have still more points in common, particularly in the matter of causation. There seem to be two main groups of causes, the one being classed as "emotional," the other as being due to toxic conditions, hereditary predisposition having an important influence on each. The toxæmic element would appear to be more effective than the emotional in all these maladies excepting saltatory spasm. This is a point which hitherto has not been clearly established, but Dr. KAUFFMANN'S observations have been carried out in a thorough manner and his arguments tend to carry conviction. Several elements tend to produce the gastro-intestinal disturbances giving rise to toxæmia. Over-eating has a great effect in setting up disorder of the alimentary canal. The lecturer explained its action by contending that normally the glands which produce the digestive juices secrete them in quantities which are capable of dealing with a certain volume of food. Habitual excess of food or too frequent meals will, no doubt, stimulate the glands to yield a proportionate increase of their secretion for the time being, but such an over-strain, if long continued, is apt to end in glandular inadequacy and consequent incomplete digestion. The incomplete digestive products may be absorbed or, in the absence of a sufficient amount of the digestive fluids, bacterial decomposition of the intestinal contents takes place and the products of the same are taken up by the blood-vessels and lacteals. Food unsuitable either to the age of the patient or to his individual digestive capacity is likewise often the cause of those gastro-intestinal conditions which are found associated with the neuroses. Reference is made to the fact, generally known and accepted, that an excess of meat—and probably the same would hold good of excess of any other proteid material—is apt to be associated with dreamings, enuresis nocturna, and epilepsy. The most common predisposing cause of all the neuroses above enumerated is, in Dr. KAUFFMANN'S opinion, constipation, arising from catarrh of the intestine or faulty diet, or proceeding from mere habit and encouraged by neglect. The resulting effect is produced partly by the delayed elimination of fæcal matter, which therefore has a chance of being re-absorbed by the intestine, and partly by the encouragement which it is known that bacterial growth within the intestine receives when the fæces are retained. In obtaining a history of habitual constipation the statements of the patient's friends cannot altogether be relied upon and the child should be placed under skilled observation. The detection of indican in the urine will be of great assistance to the physician. Indol and skatol are formed in the intestines by the action of bacteria on proteids; they are partly excreted by the bowels and partly by the kidneys. Before appearing in the urine they are oxidised into indoxyl and skatoxyl, and are then conjugated with sulphuric acid, indoxyl sulphuric acid being known as indican. A very little indican is commonly present even in the urines of healthy persons, but a considerable excess of the same is always accompanied by disturbed general health. Dr. KAUFFMANN maintains, therefore, that excess of indican in the urine is always associated with toxæmia and that this toxæmia arises (with rare exceptions, in which the source is decomposing pus) from the intestinal canal. He further suggests that indol itself may possibly be toxic, in view of its origin through bacterial action and of the fact that it is unlikely to be a nutrient substance, for all the familiar organic food-stuffs contain oxygen, and indol is deficient in this element. He further points out that excepting the sign of indicanuria we have no chemical test which proves that auto-intoxication from the alimentary canal is in progress.

Accepting the views just set forth, the principles affecting the treatment of the neuroses of childhood must be in a great measure dietetic. In the majority of cases in which the feeding is at fault it is advisable to reduce the amount of meat which the child consumes. Meat once a day is nearly always sufficient. In most cases the action of the bowels also requires attention, since the prevention of an auto-intoxication from the intestine depends chiefly on regular and sufficient defecation. The so-called "intestinal antiseptics" naturally suggest themselves as adjuvants in preventing bacterial action in the bowels. Dr. KAUFFMANN states that he has tried many of them, but he cannot say that any one of them can be relied upon to remove the trouble entirely and in all cases. He has found greatest success with carbolate of soda and charcoal. This experience will probably tally with that of most physicians. Salol, β naphthol, and creasote sometimes produce admirable results, but in some cases but little good effect is seen. In addition to the general treatment thus indicated special measures are required in the various forms of the neuroses. We especially notice the remarks on the treatment of chorea—seclusion, darkness, and quiet may have to be insisted on, but the principal drug that should be given is arsenic in doses of about 15 minims of Fowler's solution twice or three times daily, as advised by Dr. MURRAY. The success of this method contrasts most favourably with that attained by arsenic in small doses and is much more quickly obtained.

There are many matters discussed in Dr. KAUFFMANN'S lectures which are of the greatest importance in actual practice, and but few controversial points are touched

upon. This by no means detracts from the general value of the lectures. The experiences of physicians who have given special attention to certain forms of disease are always valuable, and we may conclude by quoting the words used by Dr. PYE-SMITH in his address on Medicine recently delivered at Ipswich: "We must never allow theories, or even what appear to be logical deductions, or explanations however ingenious, or statistics however apparently conclusive, or authority however venerable, to take the place of the one touchstone of practical medicine—experience."

WE publish on page 551 a full report of the extraordinary meeting of the governors and subscribers of the National Hospital for the Paralysed and Epileptic, held on Saturday last. This meeting was convened for the following two purposes:—(1) to decide as to the advisability of admitting members of the medical staff of the hospital to the board of management of the hospital; and (2) to decide as to the necessity for holding an investigation into the domestic management of the institution, which has been recently impeached by the medical staff. Only 16 persons were present at the meeting, a fact which in itself prevents the one conclusion that was come to by the meeting—i.e., that no further investigation was necessary—being considered final. The meeting, however, was of considerable importance to the institution, to the medical profession, and to the public at large, and we publish the proceedings in full because it is certain that the words of some of the speakers will be made the subject of much comment when all the matters at issue between the board of management and the medical staff are fully gone into—as it appears inevitable, as well as most advisable, that they should be.

Mr. GEORGE W. E. RUSSELL, who took the chair, opened a long and neatly-worded address by dealing with the question of the advisability of holding an inquiry into the domestic side of the management of the hospital. He gave as his reason for thinking this to be quite unnecessary that a special sub-committee of the board of management had already conducted such an investigation, adding that he himself was active in visiting the wards and solicitous about the welfare of the patients within and without the hospital. Not one word that Mr. GEORGE RUSSELL said in this connexion had the slightest practical value. We are not belittling his enthusiasm or his philanthropy and we are not suggesting that he and his colleagues on the special sub-committee, Sir GERALD FITZGERALD, K.C.M.G., and Mr. JOHN PEARMAN, are not perfectly capable of conducting an investigation into the domestic management of a hospital from a lay point of view; but (and it is a large but) a special sub-committee appointed by the board of management is not the proper body to test and report on the matter, for the board is itself the accused party and cannot seriously constitute itself its own judge. Possibly this point presented itself to the minds of Mr. GEORGE RUSSELL and of his colleagues on the board, because it would seem that the board does not absolutely refuse to consider a further investigation into the domestic affairs of the hospital. It holds such investigation to be unnecessary, yet it will not oppose it if the governors think it advisable. But on the question of admitting medical men to the board of management it is solid in an uncompromising refusal. The wherefore of this attitude can be read in Mr. GEORGE RUSSELL'S speech at some length, the most important reason to his mind seeming to be that it might be the duty of the board to sit in judgment upon certain members of the staff. This is a most unfortunate argument for a board to use which has just concluded that it is itself competent to decide on its own alleged shortcomings, and surely Mr. GEORGE RUSSELL must have forgotten that the medical staff do not ask to swamp the board of management but only to be represented upon it. The board would thus be a mixed tribunal, as it should be, for the work of a hospital has its medical side and its lay side, and whereas it is equally human for the medical man and the layman to err, any tribunal made up exclusively of one party or the other might find itself in the position of its own judge. The patients, who by Mr. GEORGE RUSSELL are imagined as complaining of the medical staff, might with equal possibility complain of the secretary, of the food, of the nurses, of the bed-linen, or even (with an ingratitude which we hesitate to suggest) of the irksome nature of Mr. GEORGE RUSSELL'S visits. Mr. GEORGE RUSSELL cannot be blind to the fact that there are two sides to the work of a hospital, but he holds that all the authority should be vested in laymen, for medical men, especially those who have studied in special directions, are, in his opinion, unable to appreciate the details of the domestic management of the sick, and equally unable to master the meanings concealed under the phraseology of the Lunacy Acts and of the rules of the constitution of the charity to which they give their best work. Such limited persons as Mr. GEORGE RUSSELL'S imaginary medical staff should obviously have no authority or discretion vested in them, hence if they have anything to say to the board of management they will find in the secretary-director the most obvious channel for such communications. Mr. GEORGE RUSSELL must be contradicted flatly. The physician or surgeon who cannot understand English and who knows nothing of the nursing or feeding of his patients is a figment of Mr. GEORGE RUSSELL'S brain. The medical staff of the National Hospital for the Paralysed and Epileptic are capable citizens as well as distinguished neurologists. The secretary-director is the salaried servant of the hospital, and it is not right that he should be the only, or even the principal, medium between them and the board of management. The medical staff have the right to know that what they say and what they wish, exactly as they say it and wish it, reaches the ears of the board of management. There must be no suspicion that only such matters as are deemed by a salaried official to be worth the attention of the board are laid before the board. Everything that the medical staff have to say must be heard, and they must be the judges of whether it is worth hearing. The obviously easy way in which this can be managed is for the board to include representatives of the medical staff. A board that fears the presence at its counsels of representatives of the medical staff, lest they should become the predominating partners, must be conscious of weakness, and therefore peculiarly open to the influence of a strong secretary-director. This excellent point was made at the meeting by

Mr. MELVILLE GREEN, the only governor present who dissented in words from the board's decision to exclude absolutely the medical staff from seats at the board.

There is one other subject upon which we wish to touch. Mr. GEORGE RUSSELL, who made an excellent and impartial chairman, is an anti-vivisectionist and hinted discreetly at views which may make it impossible for him to regard with equanimity the presence upon the board of management of the National Hospital for the Paralysed and Epileptic of persons who are directly antagonistic to these views. He believes that his views are far commoner than they are, and he attributes to the working men of this country a horror of hospitals which clearly does not exist. As Sir HENRY BURDETT pointed out at this meeting, there are at the present time many thousand more hospital beds than there were before the question of vivisection was dealt with in its present ignorant and sensational manner, and for these thousands of beds there are tens of thousands of claimants. In every large town in the kingdom the question of hospital abuse is an acute one and the need for hospital accommodation is equally acute. What sort of widespread horror of hospital accommodation is it that drives these myriads of persons to consult hospitals when in many instances —too many it is to be feared—they possess the means of consulting private practitioners?

Annotations.

"Ne quid nimis."

THE TENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

BY the time that the Paris International Exhibition of 1900 closes no less than 127 International Congresses will have been held in connexion with it. Of these the most important from our point of view is, of course, the International Congress of Medicine. But in some ways the Congress of Hygiene and Demography is of equal importance; nay, possibly, it looks upon disease from an even higher plane, for its ultimate aim may be summed up in the aphorism, "Prevention is better than cure." It is utopian to expect that disease will ever be finally done away with in this life. Accidents, the stress of modern conditions of life, the artificial circumstances due to the "*fumum et opes strepitumque Romæ*" amid which so many of us live and work, and, not least, over-indulgence in eating and drinking, will all continue to produce their bounden effects, and to offer a wide field for the skill of the physician and surgeon. But when we consider what and how much hygiene and sanitation have already achieved we may well take heart and hope that at no very distant time diphtheria and scarlet fever may become as rare as typhus fever is at the present day. That is why we hope that the labours of the Congress of Hygiene just concluded may in the future meet with the success which they deserve. The subjects with which the Congress dealt were divided into eight sections. First on the list stood bacteriology, a science which has of late years made enormous advances and a thorough understanding of which is a necessary part of the foundations of preventive medicine. We need only refer to the three diseases diphtheria, typhoid fever, and tuberculosis as illustrations of this fact. Following upon—and we may say interdependent with—the first section came those of food-supply and sanitary engineering. The next section, that devoted to childhood, dealt with a matter that affects not only ourselves but generations yet to come. The children of the present will be the fathers and mothers of the future, and if that future is to produce a healthy race the children of the present must not only be reared under healthy conditions so as to become sound parents, but must also be instructed and trained in those principles of wholesome living which they will in after years have to apply to their own children. The section allotted to consider the questions of industrial hygiene and of unwholesome dwellings had no less important matters to discuss, for in great cities the problem of housing the workers is one of vast moment from every point of view. In our own country, the prosperity of which depends so much upon commerce and manufactures, the health of the workers is of vital importance not only on account of considerations of justice and humanity but also as perhaps the most valuable national asset. Other sections dealt with naval, military, and colonial hygiene, international sanitary measures, and the hygiene of means of intercommunication such as ships, railways, and tramcars. Thus it will be seen that the Tenth International Congress of Hygiene and Demography provided a programme involving momentous issues. Intercommunication among the nations is now so easy and so complicated that the effects of disease or gross disregard of the laws of hygiene occurring in one country are felt in some way or other almost throughout the civilised globe. For this reason it is fitting that experts in hygiene from all countries should meet and discuss such questions as are set out above, and we bid the just concluded Congress a very hearty farewell.

A CONTINENTAL SYSTEM OF BATHS AT SHANKLIN.

WITHIN an easy stone's throw of the sea there has recently been constructed at Shanklin, Isle of Wight, a series of baths identical in principle with those employed at the large spas on the Continent, such as at Schwalbach (Nassau) and elsewhere. Shanklin has long been known to possess a spring containing as its chief constituent iron in the unoxidised form of protocarbonate. The water flows from an aperture at the foot of the cliff into tanks which are the property of the Royal Spa Hotel Company, who have recently completed all the necessary arrangements for the supply of the water both for drinking and bathing purposes. The baths themselves were made in Homburg and the heating is conducted by a system of approved steam coils identical with the continental fashion. This heating is so arranged that during the process the water undergoes no change in regard to its saline constituents and especially in regard to its chalybeate properties. During this process, however, there is a considerable evolution of gas. This interesting installation provides also dee baths lined with marble adapted for special purposes of immersion into which salt water or fresh water, heated or unheated, may be discharged. The deep baths are modelled on the lines of those used at our leading bath resorts such as Bath and Harrogate. In short, the equipment, though it is at present not on a very large scale, leaves little to be desired so well has it been designed and constructed, and due regard further has been paid to sanitary requirements and to the comfort and convenience of patients. The installation includes also Russian baths, vapour baths, needle, and local spray baths. The enterprise is certainly worthy of all encouragement and it is the first example of its kind in this country in which the continental system of applying an unstable ferruginous water for treatment in baths has been adopted. On account of this originality of enterprise we intend shortly to give a further description of this interesting installation of ferruginous baths at Shanklin and at the same

time we propose to publish the results of a series of complete analyses of this true chalybeate water made in THE LANCET Laboratory as well as the results of analyses obtained on the spot. Since the iron is readily oxidised on exposure of the water to air the analysis of the water in regard to iron was made on the spot, with samples taken directly from the outlet. On August 14th an inaugural gathering was held at which the baths were declared open to the general public as well as to the guests of the hotel. There were a good many visitors present amongst whom were several well-known medical men and representatives of the press.

PLAGUE IN HAMBURG.

THE discovery of a case of plague on board a vessel in the port of Hamburg, as briefly mentioned by our Berlin correspondent on page 550 of our present issue, serves to show the great responsibility connected with the duties of medical officers who have to inspect shipping. Only meagre details of the case have been published, but the significance of such an event in Hamburg, a city of some 600,000 inhabitants and the most frequented seaport of continental Europe, is no doubt very great. The patient was a steward on board the ss. *Rosario* which arrived at Hamburg on July 30th. He was at first supposed to be suffering from typhus fever, but on August 4th plague was suspected and this diagnosis was confirmed by the usual tests. Death occurred on August 10th. Every precaution has, of course, been taken to prevent any extension of the disease, and the possibility of localising an outbreak was fully shown in Vienna in 1898, as described in THE LANCET[1] in that year. Our Berlin correspondent, telegraphing on August 16th, stated that no other case of plague had up to that time occurred in Hamburg.

"WHERE WE GET OUR BEST MEN."

THE author of a pamphlet bearing the above title has recently compiled from materials to be found in obituary notices, in "Men of the Reign," "Men of the Time," and "Who's Who," a list of 3068 "eminent" men belonging to the United Kingdom and to the present reign, 100 of whom he further selects as "pre-eminent," and upon these two lists he has based tables and statistics of some interest with regard to the sources, national, local, parental, and educational, from which our eminent and pre-eminent men are drawn. With possibly wise discretion he omits to print the roll of those whom he has chosen and he admits that in the works of authority that we have mentioned many names are to be found that can hardly be said to belong to eminent persons. That he has probably not been hard-hearted enough in his work of elimination is suggested by the inclusion of no less than 450 names representing literature, but on the whole, from what he tells us of his methods, we may assume, without seeing it, that his list is a fairly complete one if eminence be taken to imply a public rather than a professional reputation for excellence. On a further study of the author's tables and deductions we find that as against the 450 eminent persons with whom literature heads the list, art claims 273, the army 262, the law 244, and medicine 157, while the author gives it as his conclusion that, on the whole, of all the professions the bar and the army offer the greatest, and the medical profession the smallest, chance of success. Success is a term of not very certain meaning, and with regard to the army and the law there are well-marked stages in the military and legal careers at which admission to the pages of "Who's Who" is almost inevitable, while no such stages punctuate the life of the man of science. It might be added that the author tells us that he has placed all judges of the higher tribunals in his list and that if this definition includes all the puisné judges of the High Court of Justice several gentlemen who have neither been eminent in their profession nor even in politics are to be found in it. Of the countries that make up the United Kingdom England has produced the greatest number of eminent men with a total of 1754, as against 445 from Scotland, 254 from Ireland, and 45 from Wales; but when the contributions of the several nationalities are compared with their respective populations it is found that Scotland takes the lead, while Ireland is ousted from the third position by Wales. With regard to parentage the author has traced the fathers of about one-half of his eminent and two-thirds of his pre-eminent men, and excluding the somewhat vaguely defined class which he places under the heading "Aristocrats, Officials, &c.," we find the clergy well at the head of the breeders of eminent and pre-eminent sons, while the medical profession is sixth in each case, begetting 5 per cent. of the eminent and 7 per cent. of the pre-eminent. In another table we find that "professional men, principally medical," have been most often the parents of eminent medical men, a result which is only natural, although in the case of the army "officers" rank second to "aristocrats, officials, &c.," as fathers of eminent soldiers—a conclusion which may possibly point to the influence of interest in high places on the military career. It is a little startling to find that the public schools, of which the nation is justly proud and in which are included large day schools and grammar schools, only turn out 30 per cent. of our eminent men, the author drawing the conclusion that such schools tend to turn out a class of useful men rather than brilliant individuals, while the opinion assigned to the Iron Duke is not borne out when we find that only 8 per cent. of our eminent soldiers have been nurtured in the playing-fields of Eton. Eton, however, has been markedly successful on the whole, particularly in its contributions to "Government," while Oxford has decidedly beaten its larger rival Cambridge. Among isolated statements some will note with a smile that "insanity and poetry (at any rate, 'minor' poetry,) appear to be not unconnected with each other," and that "the few eminent men who developed alcoholic habits were Scotch and were engaged in sedentary pursuits." We were not aware that intoxication had been returned as a favourite "recreation" by any of the eminent gentlemen who have recorded their biographies in "Who's Who." We may add that while the general list of names is omitted a table of the principal contributions by separate families to the general list serves to whet our appetites to know more. That the pamphlet leads us to any definite conclusion can hardly be said, and could hardly have been expected, save, perhaps, what many realised before, that the clergy have often large families and on the whole bring them up well while with a celibate priesthood Great Britain would have lost the services of many of her most useful and brilliant sons.

THE HYGIENE OF HIGH ALTITUDES.

IT is well known that the chemical composition of the atmosphere differs but little, if at all, wherever the sample be taken, whether it be on the high Alps or at the surface of the sea, the relation of oxygen to nitrogen and other constituents is the same. The favourable effects, therefore, of a change of air are not to be explained by any difference in the proportion of its gaseous constituents. One important difference, however, is the bacteriological one. The air of high altitudes contains no microbes and is, in fact, sterile, whilst near the ground and some 100 feet above it microbes are abundant. In the air of towns and crowded places not only does the microbic impurity

[1] THE LANCET, Oct. 29th, pp. 1143, 1149, 1165, and Nov. 5th, 1898, pp. 1225, 1233.

increase, but other impurities, such as the products of combustion of coal, accrue also. Several investigators have found traces of hydrogen and certain hydrocarbons in the air, and especially in the air of pine, oak, and birch forests. It is to these bodies, doubtless consisting of traces of essential oils, to which the curative effects of certain health resorts are ascribed. Thus the locality of a fir forest is said to give relief in diseases of the respiratory tract. But all the same these traces of essential oils and aromatic products must be counted strictly speaking as impurities since they are not apparently necessary constituents of the air. As recent analyses have shown, these bodies tend to disappear in the air as a higher altitude is reached until they disappear altogether. It would seem, therefore, that microbes, hydrocarbons, and entities other than oxygen and nitrogen, and perhaps we should add argon, are only incidental to the neighbourhood of human industry, animal life, damp, and vegetation.

THE PUBLIC AND THE PROTECTION OF CHILDREN.

THE work of the National Society for the Prevention of Cruelty to Children is an increasing one. This is not to be taken as a proof that cruelty is itself increasing among our population. It is an evidence and a result of the society's growth and thus it is a proof of its vital energy. By a process resembling the reclamation of land, but far more rapid in its operation, new centres of activity are steadily being opened up and each of these represents a basis for further extension. Moreover, the work is necessitous because it is necessary. That prudent reserve which is the safeguard of ordinary business has only a strictly limited exercise in undertakings like this where the claim of charity is that of duty and is urgent. The society is still young and its maintenance must therefore for some time to come partake largely of a hand-to-mouth character. It has and deserves to have many helpers and among these we are pleased to note recorded in this month's list the names of several donors of legacies. Nevertheless the fact has also been recorded that the present year began with an overdraft of £8000, and it is feared that the burdens imposed on the public purse by the war in South Africa and the Indian famine have caused a serious reduction in the ordinary income of the society. The holiday season, usually barren for purposes not concerned with recreation, has now begun. The financial year, however, is by no means over and we trust that it will not close without some signs of reviving liberality on the part of that great majority of persons who wish well to suffering children. This society does not require our commendation. The respect in which it is held, not only by the public generally but by such competent judges as the magistrates and the police, is sufficient proof that its work is carried on with discretion and efficiency.

THE members of the expedition of the Liverpool School of Tropical Medicine now at Bonny have, it is stated, telegraphed home that they have discovered the filaria in the proboscis of the mosquito. It is some years since Dr. Manson propounded a theory as to the part played by the mosquito in the life cycle of filaria nocturna, the nematode which is the cause of elephantiasis. The mosquito did not, however, in this theory directly convey the worm to the tissues, but the discovery of the Liverpool expedition has now apparently established the fact of direct communication.

A TELEGRAM from the officer administering the Government of Mauritius to Mr. Chamberlain, received at the Colonial Office on August 10th, states that for the week ending August 9th there were six fresh cases of bubonic plague, with three deaths.

THE Colonial Office has also received a telegram from Sir H. A. Blake, Governor of Hong-Kong, dated Monday, August 13th, stating that 29 cases of bubonic plague had occurred during the previous week, with 28 deaths.

AT the last monthly meeting of the Council of Charing-cross Hospital a resolution was unanimously passed recording their unfeigned sorrow at the death of the Duke of Saxe-Coburg and Gotha, who for 21 years was President of the hospital.

DR. ROBERT JOHN COLLIE has been promoted from Honorary Associate to Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England.

VACCINATION AND RELIEF.—At a meeting of the Cardiff Board of Guardians held last week one of the members stated that he considered it an anomaly that parents in good positions should have their children vaccinated at the expense of the parish. The clerk, in reply, said that anyone had a right to have his children vaccinated at the public expense and added that vaccination was not relief.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—Francis Howard Humphris, M.D. Brux., M.R.C.P. Edin., M.R.C.S. Eng., of Honolulu, was admitted by ballot to the Fellowship of the College.—The following candidates were admitted to the Membership of the College after examination: George Robert Wilson, M.D. Edin., Mavisbank, Midlothian; Wilfrid Glegg, M.D. Edin., Edinburgh; Edwin Bramwell, M.B., C.M. Edin., Edinburgh; Thomas Arthur Ross, M.B., C.M. Edin., Ventnor; William Maule Alexander Smith, M.B., Ch.B. Edin., Mavisbank, Midlothian; and George Crewdson Thomas, M.B., C.M. Edin., London.—The Registrar reported that since last quarterly meeting 70 persons had obtained the licence of the College by examination.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. A. Lazarus has been recognised as *privat-docent* of Internal Medicine, Dr. L. Jacobson as *privat-docent* of Neurology and Psychiatry, and Dr. Pels-Leusden as *privat-docent* of Surgery.—*Chicago (Rush Medical College):* Dr. J. Dodson has been appointed Professor of Pædiatry.—*Genoa:* Dr. F. Badano and Dr. Gerolamo Cuneo have been recognised as *privat-docenten* of Internal Medicine.—*Halle:* Dr. Nebelthau of Marburg has been appointed Extraordinary Professor of Internal Medicine; Dr Schick has been recognised as *privat-docent* of Ophthalmology.—*Heidelberg:* Dr. Biedermann of Jena, who had been invited to fill Professor Kuhne's chair, has declined to migrate; Dr. Andolf Magnus has been recognised as *privat-docent* of Pharmacology.—*Kiel:* Dr. Paul Sick has been recognised as *privat-docent* of Surgery.—*Königsberg:* Dr. Oskar Samter, *privat-docent* of Surgery, has been granted the title of Professor.—*Innsbruck:* Dr. Stefan Bernheimer of Vienna has been appointed Professor of Ophthalmology.—*Lausanne:* Dr. Treyer has been recognised as *privat-docent* of Internal Pathology.—*Leipsic:* Dr. Otto von Strassen, *privat-docent* of Zoology and Comparative Anatomy, has been promoted to an Extraordinary Professorship.—*Marburg:* Dr. Ludwig Bach of Würzburg has been offered the chair of Ophthalmology; Dr. Wendel has been recognised as *privat-docent* of Surgery.—*Naples:* Dr. Arborio Marracino and Dr. Nicola Badaloni have been recognised as *privat-docenten* of Medical Pathology, Dr. Eugenio Curcio as *privat-docent* of Neuro-pathology, and Dr. Guglielmo Cantarano as *privat-docent* of Clinical Medicine.—*Paris:* Dr. Debove, Professor of Medical Pathology, has been permitted to exchange his chair for that of Clinical Medicine.—*Philadelphia (Policlinic):* Dr. J. Thorington has been appointed Professor of Ophthalmology.—*Rostock:* Dr. Ehrich has been recognised as *privat-docent* of Surgery, and Dr. U. Scheven as *privat-docent* of Psychiatry.—*Vienna:* Dr. Al. Kreidl has been promoted to an Extraordinary Professorship of Physiology.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT IPSWICH.

THE members of the Association would fail in their duty if they did not discountenance the habit of self-drugging by the public and we are sure that they will agree with us on this point. Yet this reprehensible practice is to some extent encouraged by the fact that the public are admitted to the exhibition of drugs at the annual meeting. At the meeting held at Ipswich we found that some of the exhibitors were giving away specimens of all kinds of drugs to lay men and women who were assured of such-and-such a powder being a sovereign remedy for sleeplessness, headache, sea-sickness, and so on; and these persons went away with an expression upon their faces implying that they had picked up a good thing, and the number of remedies, usually synthetics, which they carried away was enough to form a druggist's shop in miniature. Emphatically this should be stopped and the Organising Committee might bear these facts in mind on a future occasion.

An excellent demonstration illustrating the recent advances made in the application of the x-ray methods in surgery was given by Mr. Mackenzie Davidson in the lantern room of the Masonic Hall, Soane-street, on Friday, August 3rd. Difficult as it is to demonstrate x-ray phenomena to an audience, Mr. Davidson succeeded in convincing those present of the value of bringing the shadows into relief or of gaining stereoscopic effect for the purpose not only of localising foreign bodies but of making also a diagnosis of any abnormality. The simplest method, perhaps, is to view two photographs in the mirror stereoscope. The results are most instructive. But Mr. Davidson has also devised an apparatus by means of which it is possible to get directly a stereoscopic view of the interior of the human subject or other objects. For this purpose two tubes are used, and by an exceedingly ingenious mechanical arrangement an excellent stereoscopic effect is obtained which enables the operator to place the point of a probe exactly on the foreign body. This was proved by trying a probe upon a bullet hidden in a mass of soft material. It could be distinctly seen whether the needle was in front of or behind the bullet, and thus the exact locality and position of the missile could be found. Needless to say the demonstration was watched with considerable interest.

The museum of pathological exhibits was located in the chemical laboratory of the Ipswich Higher Grade School. It was a large, well-lighted room and was very suitable for the purpose. There was a fairly large number of specimens on view and nearly half of them came from the museum of the Norfolk and Norwich Hospital. They were exhibited by Dr. Sydney H. Long, physician to the hospital. Among the many interesting cases we were naturally (in view of the locality) chiefly attracted by the calculi. There was a good collection of these, and especially worthy of notice was an exceedingly large renal calculus *in situ*; this is unsurpassed by any specimen in any museum with which we are acquainted. The collection of old lithotomy instruments at one time used at the Norfolk and Norwich Hospital was also of great interest. Space does not allow a description of all the specimens from this hospital, but we may mention an excellent specimen of varix of the stomach. Dr. H. H. Brown showed some specimens from the East Suffolk and Ipswich Hospital, amongst which was a good example of a carcinoma of the cæcum. Mr. Strange Rays Pigg (London) exhibited a number of specimens from the Pathological Laboratory, Cambridge, and amongst them one showing glanders of the human lung. Miss E. M. Vaughan, M.D. Lond., showed a good series of specimens from the museum of the Royal Free Hospital, London, and of these we may refer specially to a number of preparations showing morbid conditions of the vermiform appendix. Mr. Joseph Griffiths exhibited four specimens from Addenbrooke's Hospital, Cambridge, one of these being an example of an aneurysm in a child aged 10 months, and another of a ruptured aorta in a boy 17 years of age. Dr. Patrick Manson (London) exhibited an excellent series of slides showing the malaria parasite, and another series showing the filaria sanguinis hominis. Mr. T. H. Morse (Norwich) submitted six examples of tubal pregnancy. Altogether the exhibition was fully up to the average, but we are inclined to suggest that it would be a good method to choose for each exhibition one pathological condition, or at the most two, which should be illustrated by the specimens exhibited. If this were done, the annual pathological museum would probably excite even more interest than it does at present. For instance, urinary calculi would have formed a most suitable subject for the Ipswich meeting.

THE SECTIONS.

MEDICINE.

FRIDAY, AUGUST 3RD.

Headaches and other Nervous Symptoms in Relation to Nasal Adenoids.

Dr. DAVID MCKEOWN (Manchester) read a paper on this subject. The usual explanation of the headaches, he said, and of other nervous symptoms due to this cause was that they were caused by imperfect aeration of the blood which in its turn was caused by the narrowing of the nasal respiratory channel by the encroachment of the post-nasal and pharyngeal growths. Combined buccal and nasal respiration gave plenty of oxygen during the waking hours, but it had been found that during sleep nasal respiration only was employed and even if the mouth were open no buccal respiration took place. To this Dr. McKeown objected, first that the same symptoms often occurred when the growths were clearly too small and few to cause any obstruction to respiration, and submitted these further considerations: that adenoids were only an accentuation of the normal condition of the naso-pharynx; that the symptoms were the same in many cases though the extent of the growths varied greatly; that the capacity of dilatation of the naso-pharynx determined the amount of obstruction and that this varied greatly: and that in any case the amount of adenoid growth rarely if ever prevented an amount of air reaching the lungs physiologically sufficient for the perfect aeration of the blood. He thus concluded that imperfect aeration was not the cause of the symptoms. He further stated that the headache and other symptoms were cured by operation. Immediately patients came round from the anæsthetic they said that the headache had gone. In cases where adenoids were present and no unpleasant symptoms were complained of patients still expressed themselves as feeling better after an operation for the removal of the growths. In both these instances it was hardly possible that if the symptoms were due to imperfect aeration they should have been relieved so rapidly. Again, headaches were often cured by epistaxis. The pathological connexion between the nasal fossæ and the cranial contents was an intimate one. Hyperæmia was often intense in these complaints and the nasal fossæ were very near the brain. There was headache in nasal catarrh similar to that above mentioned. Symptoms in the same case varied in degree from day to day, perhaps according to the condition of vascular engorgement of the mucous membrane. He thought the true explanation to be either reflex action or some blood change they did not understand, but not mal-oxygenation.

The Diastolic Expansion of the Ventricles as a Factor in Compensation for Disease of the Mitral Valve.

Dr. STACEY WILSON (Birmingham) read the following paper. There was evidence, he said, that the heart had power to enlarge its chambers and fill itself (aspiration). Cohnheim

had shown that the lengthening of the striated muscle after contraction was not wholly a passive or elastic action. As direct evidence it was found that when the vagus was divided diastole was incomplete. Thus dilatation of the heart was partly a muscular movement under nervous control. Dr. Wilson had investigated this action by means of the cardiograph and he showed many cardiograms in support of his views. He allowed that these were difficult of interpretation. In those for the normal heart there was little evidence of expansion movement, but in those taken from hearts the subject of valvular disease more was to be learnt. He showed tracings taken from patients during life in whom after death the exact condition of the valves and cavities had been ascertained. He quoted one case of compensated mitral regurgitation in which, though the cavity of the ventricle was double the usual size, the cavity of the auricle was less than normal, showing that the latter was not overworked. Now, in such a heart as this if a cardiographic tracing were taken over the apex, not much deviation from the normal was seen, but if more over the auricle the down-stroke indicating that the auricle had been drawn away from the surface by the final portions of the act of contraction of the ventricle, was suddenly interrupted by an up-stroke which Dr. Wilson maintained could only be explained by an active ventricular dilatation forcing the auricle back against the chest-wall, and he was strengthened in this view by the fact that his cardiograph had a pressure of a quarter of a pound, which he considered was far too great to be overcome by a merely passive or elastic dilatation. In some cases he had found that this wave, which he called the diastolic expansion wave, was even greater than that of systolic contraction. The diastolic expansion wave immediately followed the second sound of the heart. He considered that such a view of the ventricular diastole explained the so-called third sound sometimes heard and the mid-diastolic murmur, the latter being the flapping back of the wings of the mitral valve. In aortic regurgitation there was no wave of aspiration.

A Toxin Theory of the Causation of Gout.

Dr. W. R. GORE (Whitchurch, Salop) read a paper on this subject. If gout were solely due to the uric acid present in the blood they ought to have an attack of gout whenever the percentage of uric acid reached a certain stage. There was no positive evidence that uric acid in the blood could even produce headache, and Dr. Gore could not see that any satisfactory reasons could be adduced to prove that uric acid was capable of producing the symptoms often ascribed to it. At the same time he agreed that the true cause must be a constituent of the blood and that that constituent must be formed in the digestive tract. In savage races no diet would produce gout; in civilised races any diet might produce it. The constitutional disturbance in gout was out of all proportion to the extent of the region injured. He thought the only class of substances which was likely to be able to produce not only acute articular but also irregular gout was a toxin, and thought it probable that that toxin was the product of bacilli in the intestinal canal. In favour of this they knew that long-continued digestive troubles were often the precursors of gout, that the treatment most efficacious in gout was also that which would have the effect of cleansing and clearing the intestines, while conversely such a poison as lead, which led to the retention of the intestinal contents and anæmia of the intestinal walls, favoured the production of gout.

The PRESIDENT thought the hypothesis a likely one.

Dr. S. J. BARTON (Norwich) did not consider uric acid to be the most important factor in gout. In Norfolk the excretion of uric acid in renal calculi and the like was very common, while acute arthritic gout was very rare. Fifty years ago, however, it had been very common. He attributed the change to greater common-sense and care in diet and the management of health.

Dr. W. GORDON (Exeter) said that in Devonshire they had little uric acid excretory troubles, almost no acute articular gout, but much irregular gout. He thought the results of treatment by salicylic acid were favourable to the toxin theory as he considered its action to be that of an intestinal antiseptic, an opinion strengthened by his experience that it did more good when given in the comparatively insoluble form of salol than in more soluble ones.

Mrs. GARRETT ANDERSON, M.D. (London), could not accept the theory of the toxin origin of gout, mainly because of the persistent recurrence of gouty manifestations in patients suffering from that disease. If the toxin theory were true and they cured a patient why should the disease recur? She regarded gout as a failure of eliminatory processes, a disease of dust and ashes, and treatment directed to the improvement of elimination was in her belief that which did most good, and *vice-versâ* any factors which hindered elimination favoured gout.

Dr. W. EWART (London) then read a short paper on

Subcutaneous Saline Injections in Pneumonia

by himself and Dr. PERCIVAL BEAUMONT (London). The present treatment of pneumonia was in many respects unsatisfactory. They could hardly be said to *treat* pneumonia in the real sense of the word at all. All they did in most cases was to ensure that the patient had good hygienic surroundings and good nursing. Under these circumstances he considered that any treatment which seemed likely to give the physician any decided assistance deserved a fair trial. Dr. Clement A. Penrose of Baltimore had published statistics which seemed to prove that the subcutaneous injection of normal saline solution might be such a means. This treatment had sometimes proved useful in the later stages of severe fevers and so it seemed possible that if used early it might be more useful still. Dr. Ewart would divide cases of pneumonia into three classes: first, those obviously likely to recover; second, those tolerably certain to prove fatal, such as old alcoholic cases, cases of double pneumonia, and the like; and between these two was a third class of severe cases in unhealthy and debilitated persons, especially in those over 30. It was in this latter class of cases that a measure like this seemed desirable. Fatal symptoms came on in these very suddenly and it was useless to delay treatment till a late stage. Dr. Ewart had treated six such cases. The first case was of a severe type in a debilitated female, aged 37 years. One pint of normal saline solution was injected into the subcutaneous tissue of the right subclavian region of the chest. Next day the same amount was injected in a similar situation on the left side at 11 A.M. and again at 6 P.M. Altogether there were four such injections alternately on the left and the right sides. The patient recovered. The other five cases, one of which was ordinary pneumonia, two double, one complicated with empyema, and one a case of pneumo-typhoid fever, all died. Grey hepatisation had appeared in some. The results were disappointing. All but Case 1 were fatal, but it might be said that the proceeding caused no unfavourable symptoms and in one or two appeared to have delayed the fatal issue but did no further good. It was not resented by the patients. It did not promote death. He thought it might be given a further trial.

Progress of Sanatorium Treatment in England and Wales.

Dr. JANE WALKER (London) then gave an account of Sanatorium Treatment and quoted early advocates of the principles on which such treatment was based, such as Dr. Mc Cormack and Dr. Waddington. After their for the most part unsuccessful attempts to promote a rational treatment of phthisis treatment by high altitudes was employed. Now the factor of climate was not so much insisted on. They might range climates in an ascending degree of excellency, as damp and hot, damp and cold, dry and hot, and dry and cold. Overcrowding would neutralise the effect of the best climate. After all, treatment was more important than climate. This was not sufficiently understood. Air was not enough, feeding was not enough. Careful regulation of exercise, rest, and particularly medical care, must be added. Early improvement should lead to greater care, and patients should not be allowed to leave off treatment or go to their homes for some time after apparent recovery. As to the determination of the duration of the necessary stay in a sanatorium the standard of a patient's health was as important as the state of his respiratory organs. Routine examination of chests was too much neglected. In prognosis the rate of improvement was the most valuable factor. The public had been led to expect too much from the open-air treatment of phthisis from articles in the public reviews. She hoped in time to see maternity sanatoria for consumptive pregnant women, school sanatoria, and sanatoria as preventative institutions for the children of consumptive parents.

Dr. CHOWRY-MUTHU (London) having said a few words,

Dr. BURTON-FANNING (Norwich) deplored the idea which had been given to the public that about three months' stay in a sanatorium was all that was necessary to effect a complete recovery. He pleaded for an early diagnosis and said

that when the disease had got so far as to be discoverable by the stethoscope it had reached comparatively an advanced stage. It ought to have been sent to a sanatorium earlier than that.

Dr. STCLAIR THOMSON (London) emphasised the necessity for proper medical supervision. There were some signs that the keeping of sanatoria might fall into the hands of ignorant persons. Some hopeless cases were kept too long in sanatoria. The essentials of success were not to take a patient at the wrong time and put him in the wrong place until he died, but to take him at the right time and put him in the right place till he recovered.

Consanguineous Marriages as a Factor in the Etiology of Tuberculosis.

Dr. C. A. DAVIES (Ramsey, Isle of Man) read a paper on this subject. Consanguinity in marriage, he said, had led to much illness in the offspring. The Manx people had had little crossing of races since the twelfth century. The north was separated from the south of the island by the mountains. Further, a custom existed which discouraged marriage with a person living even in another parish. Hence they had consanguinity to an extensive degree. As a result Dr. Davies found that the general death-rate from phthisis was 25·70 per 10,000—double that of England and Wales—and his contention was further strengthened by the fact that in the most isolated part, Lonan, where all the inhabitants of the parish had only three or four surnames, the rate was 41·77 per 10,000, while in Peel, where many more strangers came, it was only 15·19. He showed very carefully prepared maps and diagrams to illustrate the paper.

Dr. W. EWART then described

A Case of Fatal Malignant Endocarditis and Right Embolic Hemiplegia apparently due to Dental Caries and Stomatitis, treated by Anti-streptococcic Serum and by Saline Infusions.

The case was of the usual type. Hemiplegia was present on admission and a rough murmur, increasing in intensity from day to day, was heard over the aortic area. The mouth was foul, with many decayed stumps and a fœtor like that of dead bone. No other departures from health and no history of any wound were discoverable. Injections of anti-streptococcic serum and larger ones of saline solution were employed. The latter in one or two cases had the addition of three-quarters of a grain of cacodylate of sodium to the pint. The patient died and no other source of infection except the mouth could be discovered. Dental hæmorrhage had been noted by several writers on this disease and Dreschfeld had quoted from Brissot and Guilbert cases where stomatitis was present. This case must either be termed idiopathic or the mouth must be considered the point of entrance for the microbes. He preferred the latter view and urged that such an easily examined cavity as the mouth should not escape examination in future cases.

SURGERY.

THURSDAY, AUGUST 2ND.

The Methods at Present Available for the Treatment of Simple (Subcutaneous) Fractures.

Mr. WILLIAM H. BENNETT (London) introduced a discussion on this subject. He said that when he consented to open the discussion he was under the impression that the subject was of limited scope, but he soon found when he considered the matter that it was very wide. He had felt that what was needed was more than the experience of an individual and he had therefore sent a letter with inquiries to a large number of surgeons attached to hospitals in London and the provinces and to others who were in a position to see many fractures and he had received more than 300 replies. The questions had intentionally been rather vague, as he felt that he could not ask these surgeons to take the trouble to make elaborate statistics. At present it might be said that the treatment of fractures was in a state of transition. For many years fractures had been treated on a stereotyped plan, each institution having its own routine method. It appeared that a more rational treatment was becoming general.

The first inquiry related to the method usually adopted in the treatment of fractures of the bones of the extremities. A very few surgeons expressed the opinion that all these cases should be operated upon immediately; a few others said that under no circumstances should an operation be performed. The large majority considered that no operation should be done except under special circumstances. Up to very recent times passive movement was never used until a very late stage; now there was a distinct tendency to discard splints which do not allow of passive movements. When passive movements were used within the first two days they might be spoken of as "immediate"; when they were not commenced until from two to 14 days had elapsed they might be called "intermediate"; and when they were not employed until more than 14 days had elapsed since the fracture the use of them might be called "remote." There seemed to be little doubt that those surgeons who used movements early got the quickest recoveries. There was a general tendency to the disuse of plaster-of-Paris splints, as these tended to cause slow union and to give rise to prolonged disability. A few surgeons preferred active to passive movements, but they used movements only at a very late stage. Nearly half of all those who replied to Mr. Bennett's circular had had no experience of operative treatment for simple fractures, and generally it might be said that the opinions were adverse to operation except in special forms of fracture, as where the fracture was very oblique and difficult to retain in position or when it was spiral. The general opinion was that wire was the best uniting medium. Screws often seemed to give rise to irritation and had to be removed, and occasionally it happened that even wire appeared to act as a foreign body. In two special cases—viz., fracture of the patella and of the olecranon—inquiries were specially made as to the method employed. The answers indicated that wiring the patella was by no means so routine a method of treatment as might be thought, and also that it was by no means free from danger to life and limb. 75 per cent. of those who answered wired all their cases of fractured patella. Three surgeons who formerly employed wiring had given it up. As to when the wiring was done, it was elicited that some operated at once and some after an interval, usually about seven days. The time of recovery varied greatly; one patient played football six weeks after wiring, and one "danced on the stage" only one month after the operation. It seemed also certain that the sooner passive movement was employed after wiring the sooner was the patient able to walk. The risks of the operation were by no means small, and did not seem to depend on the method employed. Three surgeons out of 111 who gave information on this point had had fatal cases; eight had had to amputate; 16 had had suppuration in the joints with ankylosis; five had had re-fracture occur or cutting through the bone by the wire during attempts at restoring movements, necessitating a second operation; and 10 had recurrent arthritis, necessitating removal of the wire. Mr. Bennett considered that operation could not be looked upon as an ideal method of treatment, and in the future probably a rational method would be adopted with early splinting and early movement for all cases in which there was an interval between the fragments of half or perhaps three-quarters of an inch, while an operation would be performed only in special cases with wide separation. With regard to the olecranon, operation appeared from the replies to be employed only exceptionally, and though opinions seemed to vary as to the details of treatment adopted, yet in most cases bony union was complete.

One question related to the immediate use of massage. It appeared that those who had tried it were much in favour of it, and that most of the opposition was theoretical rather than practical. Some surgeons feared embolism, and one had met with it in one case, but embolism had occurred in cases of fracture where no massage had been employed. It appeared to be likely that early passive movement and massage would become more common in the future.

The next question related to the disabilities in wage-earning power resulting from fractures. Of late years much had been heard of the permanent disability resulting from fractures of the extremities among the wage-earning class. Inquiries had been made with regard to this point of colliery surgeons who were in a peculiarly favourable position to express an opinion on this subject as they had the men under observation for years. These surgeons were quite certain that the real disability was not so great as might have been expected; a fracture did not seem to have any permanent effect on the wage-earning capacity, except sometimes in old men and in compoumd comminuted fractures. When disability occurred it was due, not to any displacement of the bones, but to a matting together of the soft parts

about the fracture and the want of free mobility. Rotational displacement was the only form which was likely to give rise to real disability. A recent attempt had been made to introduce an "ambulatory" treatment; in some cases it gave very good results, but it was not a treatment to be adopted generally.

Mr. HOWARD MARSH (London) expressed his high opinion of the value of Mr. Bennett's paper, and considered that the Roentgen rays gave us information as to the true time of union of fractures which differed greatly from that contained in the text-books. For instance, he had seen the humerus fully united at the end of three weeks. With regard to fractures of the patella he adopted wiring as a routine practice, and though he had performed this operation between 60 and 70 times he had never seen any harm occur. Inutility after a fracture was much more frequently due to the soft parts than to the bones.

Mr. C. B. KEETLEY (London) thought that there was a tendency in Mr. Bennett's paper to underestimate the prime importance of putting the bones at once into a good position. The value of the returns obtained by Mr. Bennett was much diminished by the difficulty of answering the questions. The fact that it might be necessary to remove a piece of wire was no argument against its use, as removing a wire was a very little matter. One method of operating on fractures had not been mentioned and that was "pinning." He had some years ago devised a method which was of great value in fractures of the shafts of long bones. It consisted in using L-shaped pins driven into the fragments some little distance above and below the fracture, and then the free limbs of the pins were lashed together and a pad of wood wool was placed round the whole. Mr. Keetley mentioned that he had seen fractures unite in 14 days. While the pins were most useful in fractures of the shaft, wiring was specially adapted to fractures in and near joints. With regard to the value of massage, he considered that they ought to distinguish between massage and early exercise. He was inclined to doubt the utility of massage, but thought that they should allow the patients to move the limb at an early period.

Mr. ROBERT JONES (Liverpool) was not in favour of very early movements in fractures of long bones. He was inclined to think that fractures took longer to unite than was usually imagined. He had seen Colles's fracture easily broken down eight weeks after, and he had carefully measured the limbs of patients leaving the hospital after fractures, and he had measured them again after an interval, and often there was distinct shortening, showing that the bone had not really united. With regard to fractures in the neighbourhood of the elbow no operation was required. All that was necessary was to supinate and then flex the elbow and fix the limb against the chest. If this method were adopted, though there might be marked deformity, yet movement would be free, especially in the direction of flexion. For Colles's fracture he allowed no movement except of the fingers for four weeks. He had operated 12 times for fracture of the patella, with one death.

Mr. FREDERIC EVE (London) thought that in fracture of the patella the treatment to be adopted rested with the conscience of the surgeon. If he felt that he could guarantee asepsis, then the open method was ideal, except for cases with very slight separation of the fragments. He always advised male patients to have the operation performed, as a strong limb was thereby gained. He always began passive movements early. He had found screws much more difficult to use than wires, for the screw often pushed away the fragments, and under strain the screw might break the bone. Wires were much more satisfactory. He could see no object in commencing massage very early, for organisation of effused material did not begin before the eighth or tenth day. He was inclined to think that in some cases displacement of the fragment was a real cause of disability. Especially was this the case in separation of an epiphysis, where there was often some fracture of the shaft.

Mr. J. HUTCHINSON, jun. (London), considered that wiring would continue to be the regular method of treating fractures of the patella. He thought it much the best method if the separation were at all wide. By no other plan of treatment could the ragged edges of the torn aponeurosis be removed, or the effused blood be evacuated, or absolutely perfect apposition of the fragments be obtained. Of all the cases he had done only one was unsuccessful. In that case the man died two weeks after the operation, but the wound and the knee were perfectly healthy and the cause of death was valvular disease of the heart. He was inclined to think that massage would not entirely prevent atrophy of the quadriceps. Early massage and early passive movement were of doubtful value in fractures of the long bones. In fractures near the joints in children there was generally much effusion, but it all thoroughly disappeared in time and free movement was obtained. Even in adults much moulding of the fragments occurred in faulty union. In some fractures, such as fracture of the surgical neck of the humerus, early massage was very likely to lead to non-union.

Mr. F. F. BURGHARD (London) was in favour of immediate operation in every case of fractured patella. The case should be treated without a splint from the first, the joint merely being surrounded by a large mass of cotton-wool. In Pott's fracture and in Colles's fracture early massage was extremely useful. Disability after a fracture was chiefly due to the matting of muscles. Wire was decidedly the best medium for bone suturing.

Mr. BENNETT, in reply, denied that he opposed wiring the patella, unless the separation was less than half an inch or at the most three-quarters. He agreed that massage was not applicable to most fractures in children.

The Removal of Large Stones from the Bladder, with Notes of a Case.

Mr. S. H. BURTON (Norwich) read the notes of a case. A man, aged 33 years, had suffered for 13 years from pain on micturition, with occasional hæmaturia. He was admitted to hospital on Feb. 10th, 1900. The urine was alkaline and a large stone was felt. On Feb. 15th suprapubic lithotomy was performed, about five ounces of lotion having first been introduced and an incision three inches long having been made into the bladder. The stone was removed with some little difficulty and the wound was closed except at the lower part, where a drainage tube was left. The stone weighed over 10 ounces. A small fistula was left and in June a pyelitis of the right kidney was found and was incised, but on June 15th the patient died from the renal disease. At the present time for large stones the choice had to be made between suprapubic cystotomy and perineal lithotrity. Suprapubic cystotomy was reintroduced by Petersen of Kiel, and then Sir Henry Thompson recommended it. Mr. Burton looked upon the operation as being very simple, and by it very large stones could be removed; for instance, Sir Thomas Smith removed successfully one 24½ ounces in weight. The issue of this operation, as of most other methods of removing stones, depended chiefly on the condition of the kidneys. Perineal lithotrity might be performed in one of three ways. 1. The Forbes-Keith method. In this an incision was made in the membranous urethra, then a lithotrite was introduced, the stone was crushed, and the fragments were removed by an evacuator. 2. Delbeau's method as modified by Mr. Reginald Harrison. In this a median perineal cystotomy was made, a crushing forceps was introduced, and the fragments were removed. In the third method introduced by Milton (of Cairo) a lateral perineal incision was made, a lithoclast was introduced and the stone was crushed, and then a lithotomy forceps was used to remove the fragments. Mr. Burton thought that a stone of any size could be removed by the suprapubic operation.

53 Operations for Stone in the Bladder of Two Ounces and Upwards.

Mr. P. J. FREYER (London), who read a paper under the above title, started by assuming it as generally acknowledged that for a moderately sized stone Bigelow's operation was the only justifiable method, and in his last 400 cases there had been only 13 cutting operations. What was meant by a "large" stone depended partly on the age of the patient and partly on the experience of the operator. Of the 53 cases there were only two in boys and one in a woman. Four were treated by suprapubic cystotomy, 14 by the perineal operation, one by vaginal lithotomy, and the remainder by litholapaxy. It was necessary for large stones to have powerful lithotrites, and the aspirator must be light, free from valves, short, and with strong rubber. Stricture of the urethra was no bar to operation for a small stone, for which a single introduction of the lithotrite would be sufficient. Enlarged prostate was rarely an obstacle to the operation, but a tortuous urethra might be. Of the last 400 cases there was only one stone which the lithotrite could not crush.

Mr. W. CADGE (Norwich) thought that the very excellence of Mr. Freyer's results made it undesirable for the general

surgeon to follow his practice. For the general surgeon the suprapubic method was certainly easier; and if the stone were in the end of the ureter or if it were encysted no other method would do. He thought that the mortality of the suprapubic method would in time be very much reduced. The results of lithotrity obtained in India were not comparable with those acquired in England because the Indian stones were not so hard as the pure uric acid stones of East Anglia.

Professor NICOLAYSEN (Christiania) mentioned that urinary calculi were very rare in Norway, but he had found the suprapubic operation very easy in the case of a very hard uric acid stone.

Mr. REGINALD HARRISON (London) spoke in favour of his form of perineal lithotomy. He pointed out that the results were very good. His cases with those of Milton, whose method was nearly the same as his own, amounted to nearly 50 and out of these only one patient had died, a very good result considering that the operation was only used for large stones.

Brigade-Surgeon-Lieutenant-Colonel D. F. KEEGAN (London) said that the mortality of the suprapubic method was 50 per cent. in India, while in 1895 20 perineal lithotrities were performed in the North-West Provinces with no death. He did not think that any stone could be too hard to be broken by a suitable lithotrite.

Mr. R. C. CHICKEN (Nottingham) spoke of the facility of removing large stones from the female bladder by dilatation of the urethra, and he showed a large calculus which he had removed in this manner without any subsequent incontinence of urine.

Mr. CHESTER NANCE (Norwich) doubted the correctness of the heavy mortality of the suprapubic operation. He described a case in which he had recently removed a large calculus by that method. In the six years during which he had been house surgeon there had been eight cases in which this operation was performed and none of the patients had died.

Mr. BURTON, in reply, said that he could not understand the very great mortality from the suprapubic operation in India.

Mr. FREYER, in reply, claimed that the results of the suprapubic method in this country were equally bad.

OBSTETRICS AND GYNÆCOLOGY.

THURSDAY, AUGUST 2ND.

Mr. ALBAN DORAN (London) introduced a discussion upon

The Natural History of Fibroids and Recent Improvements in their Treatment.

He divided his subject into two divisions:—1. The natural history of fibroids. He pointed out that much was known about uterine fibroids, the disease being so common; but more knowledge was desirable. Their pathology as tumours had been worked out fairly well, but so far very little had been accurately determined as to the physiological and pathological relation of the ovaries to fibroids. These tumours were sometimes associated with menorrhagia or metrorrhagia and sometimes with normal menstruation. The precise significance of menorrhagia was not always certain in individual cases. The rate of growth varied considerably; moreover, a slow-growing fibroid might take on sudden growth, and a rapidly-growing fibroid might as suddenly cease to grow altogether; but prognosis as to growth was very uncertain in any given case. On this point more knowledge was urgently needed, for treatment depended on the question of future growth or quiescence of the tumour. It was known that fibroids tended to grow smaller about the menopause; but this rule must be accepted with certain qualifications and had many exceptions. 2. Improvements in the treatment of fibroids. The speaker eliminated from the question under discussion the subject of fibroids of the broad ligament. These tumours always demanded removal and the operation for that purpose differed surgically from hysterectomy for fibroids in several important respects. Hence statistics of hysterectomy for fibroid, which included cases of fibroid of the broad ligament, were unreliable. He held that most uterine fibroids did not require removal; discussion as to improvement in their therapeutical treatment was therefore desirable. In respect to any alleged "improvement" based on statistics with low mortality it must not be forgotten that many small fibroids that did not require removal might be taken away with relative impunity. In that case, whatever the operation might be, it was not surgery. Granting that many fibroids, under well-known conditions, undoubtedly required removal, he proceeded to discuss the methods for removing them. (*a*) The serre-nœud or elastic ligature was rejected by most authorities; some still advocated it in cases of hysterectomy for fibroid obstructing labour, as its application saved much time. (*b*) Enucleation of the fibroid and sparing of the uterus were advocated in America. (*c*) Panhysterectomy and vaginal extirpation were favoured in continental Europe. (*d*) Retro-peritoneal hysterectomy was the most popular method in the United Kingdom at present. (*e*) Removal of the ovaries for fibroids had been found to be of very doubtful value, as the hæmorrhage continued in many cases and the reduction in size of the myoma was not constant. Improvements in technical details and the question of leaving the ovaries were subjects for discussion.

Dr. BERRY HART (Edinburgh) commended the spirit of healthy scepticism which prevailed in the paper. With regard to the clamp operation he considered it as a serious and raw procedure which had played a great part in biasing surgeons and patients against the operation. The good results to be expected from the onset of the menopause had been greatly exaggerated; he had seen many bad consequences of leaving fibroids alone, such as hæmorrhage, jamming down of the tumour into the pelvis, pressure on the ureters, &c. He regarded the two chief improvements in operation as being: (1) better hæmostasis, especially by the American method; and (2) the Trendelenburg position. He believed that any ligature applied to the stump of the cervix was bad, as tending to produce sloughing. The attitude towards the subject of fibroids adopted in this country was, he thought, too conservative.

Dr. W. J. SMYLY (Dublin) said that there was no question before practitioners more difficult to answer than whether fibroids should be operated on or not. In the Address on Medicine on the previous day they had been told that the physician could tell what was going to happen and it came about; but the matter was quite otherwise with the gynæcologist. There were patients whom he advised in former years to have no operation, and in many of these cases he had since regretted his advice; in a few cases he had not regretted it. In the majority of cases his view was that myomata required operation. Many patients, if left alone, died directly from the results of fibroid tumours, others from the indirect results. The latter cases were often not recognised. With regard to method, he thought he might claim Mr. Doran as a convert to pan-hysterectomy, for he had said in his paper that the more of the cervix that was removed the better; and the most of the cervix that could be removed was the whole cervix. He did not think that any of Mr. Doran's objections to pan-hysterectomy were valid. He had lately adopted M. Doyen's methods, both vaginal and abdominal, in the treatment of fibroids, with very good results. He had done 25 cases of the vaginal operation, with one death; and six cases of Doyen's abdominal operation, also with one death. For rapidity and safety and for the avoidance of many ligatures he thought that Doyen's methods were the best.

Mr. HARRISON CRIPPS (London) had little doubt that if a woman could be told that the risk of operation was less than the risk of leaving a fibroid alone she would in most cases choose operation. But when a tumour was small and perhaps accidentally found they should not, of course, advise operation. The difficulty of decision lay in cases of an intermediate class, where a fibroid did not threaten life but caused much inconvenience; if the results of operation were only good enough, operation would no doubt be more often practised in this class of case. To guide them in their decision they required to know (1) the risk to life of fibroids if left alone; and (2) the risk of operation. It was very difficult to answer the first question. Dr. Champneys had given some statistics on this point in which he made the statement that the mortality apart from operation was three in over 2,000,000. An error must have crept in somewhere in these statistics, and as these statistics were likely to be quoted hereafter he thought that the discrepancy required explanation. All of them who had seen anything of fibroid disease of course knew that the fatality from fibroids was vastly greater than three in 2,000,000. His experience of fibroids was that the fatality was even much greater than the 2 per cent. shown by the St. Bartholomew's post-mortem cases. The chief causes of death were cystic degeneration, sloughing, pregnancy, and intestinal obstruction; out of

30 cases of fibroid he had met with 10 cases of one or other of these complications. He believed that the most important recent improvements in methods were: (1) a better knowledge of antiseptics; (2) intra-peritoneal treatment of the stump; and (3) the Trendelenburg position.

Dr. A. V. MACAN (Dublin) pointed out that statistics took no account of the thousands of women with one or more fibroids who lived and died without anyone knowing anything about them. The exact method of operation seemed to him of less importance than the maintenance of perfect asepsis.

Mr. J. H. CAMERON (Toronto) said that however frequent uterine myomata might be, and however few the women who would die from them, regarded in the aggregate, the important point for the clinician was what was going to happen in the individual patient who was consulting him. He agreed with Dr. Smyly as to the difficulty of forecasting the course of these cases. The method of operation did not seem to him at all a matter of indifference; the simplest plan was the best, and he thought that no method was better than Kelly's. The danger of many ligatures could be obviated by the plan in vogue in some places in Canada of employing powerful clamps applied for three or four minutes. The hæmostasis by this means was perfect.

Mr. ROGER WILLIAMS (Bristol) believed that surgeons had been led into a false position by comparing myomatous with ovarian tumours. There was no analogy between them, but rather a complete antithesis. With myomata not more than 1 in 2000 unoperated cases ended fatally and not more than 1 in 500 suffered serious indisposition. He calculated that there would be found to be about 1,000,000 myomatous women in their present population; about 500 women died annually from myomata which would place the mortality of myoma as 1 in 2000. Now if all the million women were operated on, the mortality of operation being 10 per cent., about 100,000 cases would be sacrificed annually.

Dr. JOHN CAMPBELL (Belfast) said that the proportion of women with harmless fibroids was of no interest to him; he had to deal with patients who consulted him because the tumours were troubling them. He emphasised the fact that the tumour should not be allowed to remain until dangerous changes had taken place in it or until the woman's state of health was such as to make the operation a matter of life and death. Good surgery consisted in the removal of tumours at a favourable time. But however often they might have to operate there were many cases in which medical treatment was for some reason essential, especially for hæmorrhage, and he strongly advocated the administration of chloride of calcium and hydrastis in combination. The former drug acted not by depositing calcium salts in the tumour or elsewhere but by favouring coagulation and checking hæmorrhage.

After some remarks by Dr. MACNAUGHTON-JONES (London) and Mr. STANMORE BISHOP (Manchester) Mrs. STANLEY BOYD, M.D. (London), referred to the presence of a concomitant salpingitis as a cause of hæmorrhage and suggested that valuable data might be obtained if statistical evidence were collected of cases operated on showing the symptoms, and especially hæmorrhage, for which the operation was undertaken and the exact pathological conditions found at operation, the position of the tumour in relation to the uterine cavity, and the state of the uterine mucosa, tubes, and ovaries. Operations were too often exploratory; the exact condition of the parts should be ascertained beforehand. With regard to the removal of one or both appendages Mrs. Stanley Boyd recommended that one ovary at least should always be left if possible, for even an atrophied ovary was probably better than none at all.

Mrs. M. A. D. SCHARLIEB, M.D. (London), classed the indications for operating as follows:—present conditions: hæmorrhage, pain, pressure symptoms, invalidism; future conditions: degenerations, especially malignant and gangrenous. Pan-hysterectomy should, she thought, be used where fibroids involved the whole uterus including the cervix; but myomectomy should always be done when it was possible to save the uterus.

Dr. ARTHUR GILES (London), referring to the mortality of fibroids when left to themselves, said that astonishing fallacies were met with in statements on this subject. Mr. Cripps had shown the errors into which so careful an observer as Dr. Champneys had been led. The mortality of unoperated fibroids at the present time could not be ascertained, because nearly all the gravest cases came under the care of the surgeon, and a large number of what would otherwise have been fatal cases were consequently removed from that category. Mr. Roger Williams stated that the mortality of unoperated fibroids was 1 in 2000 (a mortality which Dr. Giles contended was entirely below the mark), and he went on to say that if all cases of fibroids were operated upon the mortality, reckoned at 10 per cent., would amount to 100,000. This was absurd, because, as all authorities agreed, the mortality of operations undertaken for small fibroids was practically *nil*; as Mr. Doran had said, small fibroids might be taken away with relative impunity. Broadly, the question of the indications for operation could be expressed fairly simply. If a fibroid caused no symptoms no operation was needed. If symptoms occurred they must be treated, and whereas in cases where life was threatened all would agree to operation, in cases where life was not threatened the matter should be fairly placed before the patient and the choice left to her.

Dr. HENRY BRIGGS (Liverpool) laid stress on the importance, in suturing the cervix after hysterectomy, of avoiding passing sutures through the substance of the stump and the peritoneum. The latter should be sutured separately.

After some observations by Mr. SKENE KEITH (London) the PRESIDENT said that they were all agreed that in cases with grave symptoms operation must be done, and that not only when life but also when health, which was often as precious as life, was threatened. The difficulty was with borderland cases. He thought that the death-rate of unoperated fibroids should not be very difficult to obtain because it was only within recent years that these cases were operated upon, but he did not think that the mortality was as low as Dr. Champneys had stated. It seemed to him that a wise and moderate conservatism had been shown by the various speakers on the subject.

Mr. ALBAN DORAN then briefly replied.

Mrs. SCHARLIEB read a paper on Vaginal Hysterectomy, its Immediate and Remote Results, and Dr. HENRY BRIGGS read a paper, illustrated by numerous drawings, on Vaginal Enucleation *versus* Vaginal Hysterectomy in the Treatment of some Fibroids of the Uterus, with notes of cases.

STATE MEDICINE.

THURSDAY, AUGUST 2ND.

The Action which can be Taken by Local Authorities for the Prevention of Tuberculous Disease, apart from the Control of Milk- and Meat-supplies.

The discussion on this subject was opened by Dr. HENRY KENWOOD, assistant professor of public health, University College, London. In opening the discussion he proposed first to review briefly the various general measures and then to pass to a consideration of the notification of phthisis.

Improved sanitation.—In the first place they all recognised that none of their efforts must be relaxed in the direction of removing those conditions of site, dwelling, occupation, and of food which promoted the prevalence of the disease, seeing that the work of sanitary authorities in that direction had reduced such prevalence some 40 per cent. among males and some 54 per cent. among females, from 1861-70 to 1891-98; and in dealing with the phthisis still in their midst they must more especially direct their energies towards enforcing the provisions of sanitary law (1) for the prevention of overcrowding; (2) for securing healthy homes for the lower classes; and (3) for an improved general scavenging. Mr. Shirley Murphy had taken the death-rate from phthisis in each of the five groups of London sanitary areas at several age-periods and he found that, speaking generally, the more over-crowded groups had higher death-rates at *each age-period* than the less over-crowded, and this was especially marked at those age-periods which were most susceptible to phthisis. It was seen, then, what a close relationship existed between the prevalence of phthisis and the housing of the poorer classes.

Educational measures.—So far as this essential matter of the education of the public was concerned, happily the public press in this country might be counted upon to coöperate in any public-spirited action. It had already afforded material and invaluable help and by reporting the transactions of the National Association for the Prevention of Consumption it had done much more to educate the general public on the communicability of phthisis. The annual meetings of the British Medical Association, the Sanitary Institute, the Royal Institute of Public Health, and the National Health Society directly (and indirectly through the press) did so much to educate the public on

matters of public health that it was a lost opportunity if the subject of tuberculosis in some one or other of its relations did not come up for treatment. But there was another most powerful educational factor on which they ought to be able to count. The Church, as she existed in England, with her parochial system extending to the remotest parts, was the most powerful organisation for doing good which the nation possessed. A great means of educating *the future generation* was provided through the schools. Instruction in the elements of hygiene, of healthy infant-rearing, and of infection and its prevention, should be made compulsory. In every standard it could be taught, either under composition, reading, writing (copybook headings), or as a special subject; and the education should be made to appeal directly to the scholars by means of object lessons of defective hygiene, &c. Judiciously worded handbills might be placed in the hands of nurses, district visitors, the clergy, and the heads of schools for distribution; and they might be distributed by the local authority to all parts of the district where the information was more particularly required. On these handbills of general information an offer should always be made to disinfect, free of charge, infected premises. In Manchester such handbills had been left three times at every house in the city since the year 1894. Permission might be sought for placards (brief and practical) to be hung up in workrooms, public-houses, railway-carriages and other public conveyances, theatres, and music-halls, in which the dangerous and disgusting habit of spitting everywhere and anywhere was condemned, and in which the precautions were indicated which should be taken with the expectoration coughed up by those who had coughs of long standing.

Other measures.—Arrangements might be made with the registrar of deaths to advise the medical officer of health of all deaths from phthisis as soon as possible after registration, when the house should be visited, an offer made to disinfect, and a handbill of advice left. In Stoke Newington and Finchley they had during the past two years secured satisfactory disinfection in slightly over 70 per cent. of the applications made after learning of a death from phthisis. Circular letters should always be sent asking the coöperation of medical men and nurses in advising and directing the necessary preventive measures in infected households. It was generally recognised that a great duty devolved upon the medical attendant who advised a phthisical patient, and his educational power was enormous. The employment of consumptives in the cooking or selling of food should be prohibited as far as possible, and in any case where consumptives *must* work along with healthy people the superintendent of the works should make the observance of the rules with reference to expectoration an absolute condition on all workers. In this connexion the importance of a careful selection of occupation for those who inherited a predisposition to phthisis could not be exaggerated, and since otherwise work had often to be persisted in by a phthisical patient to the detriment of his own recovery and the safety of his fellow-workers, the German measure of compulsory insurance had much to recommend it. In Germany at present all persons, male and female, engaged for wages or salary in trade or business (about 8,000,000) were compulsorily insured against sickness and death, the employer paying one-third and the employé the remaining two-thirds of the premium. This law did not include domestic servants or agricultural labours. Finally, many sanitary authorities were providing, free of charge, the means of a bacteriological examination of sputum on the condition that certain particulars of the disease, when diagnosed as phthisis, should be communicated confidentially to the medical officer of health, who did not arrange for a visit to the house if the medical attendant objected.

Isolation hospitals and sanatoria.—The provision of some measure of hospital isolation was an essential part of an effective scheme. Whatever the extent of the provision made the great majority of the sufferers from phthisis would remain outside with their families and at their work, and Dr. Kenwood agreed that it would be impossible and unnecessarily cruel to take them from their homes for purposes of compulsory isolation, save in exceptional cases; but the fact must be recognised that if a phthisical individual, by reason of his surroundings or mental habit, was, despite all their efforts in other directions, a continuous source of danger to others, he should be compelled to submit to isolation, and without this provision all their efforts to reduce the prevalence of the disease must be seriously handicapped. What, then, was more particularly wanted was an isolation home or hospital for each district, or combination of districts, where the medical officer of health and medical attendant were both able to certify that the isolation of the patient was the only measure by which others could be protected, power should be given and the means provided to secure such isolation. So far as sanatoria or curative hospitals were concerned almost without exception those located in England were designed for the benefit of the well-to-do classes and no sanatorium was yet available for poor patients. It was impossible to believe that this state of things could be allowed to continue. By making such hospital provision the authority presented a most valuable object lesson to the whole community and the more of the poorer classes who could be induced to pass through the doors of a sanatorium either for a short residence or for gratuitous advice and treatment as out-patients the more completely would the poorer section of the community be educated to the routine observance of the necessary precautions.

The notification of phthisis.—It was necessary to know where the infected homes were, and this information could be obtained by notification and by notification alone. Handbills and lectures, &c., had little educational effect compared with that which brought about the visit of the medical officer of health or his assistant who would direct and impress upon the household the necessary precautions which must be observed. This was effective education, and without notification it was impossible thus to educate and protect a large number of persons who must otherwise inevitably fall victims to the disease; that was the price which the community was paying for the failure to adopt notification. It was in the interest of the individual, the community, and the State that all communicable disease should be reduced to the lowest attainable limit, and this was impossible, so far as phthisis was concerned, without the preliminary information obtained by notification alone, and that conviction was generally shared by those who had honestly tried and experienced the limitations of all other measures. It was suggested, therefore, that a system of voluntary notification should be everywhere instituted without further delay; but not before notification was made compulsory would they obtain a sufficiently complete knowledge of cases to enable them to cope with the disease with the greatest effect. There could be no two opinions that the action which would follow upon the compulsory notification could not involve all the obligations and penalties enacted by public health legislation against the spread of the infection of those diseases already scheduled in the Infectious Diseases (Notification) Act, for (1) the average duration of infection that ultimately proved fatal was about three years; and (2) the illness fell mainly on the working periods of life (25 to 55 years of age); sufferers were, moreover, generally capable of continuing their work for many months and often for years. In fact, the action taken under compulsory notification need be little if any more than that embraced in the voluntary notification as practised at Manchester.

The Manchester scheme.—Handbills of information and advice were freely distributed as opportunity presented itself; and, as already pointed out, a handbill had been left at every house in the city on three different occasions since 1894. Placards dealing with expectoration were affixed as generally as possible in workrooms, public-houses, public conveyances, &c. All premises in which a death from phthisis had occurred as reported by the registrar were visited; advice was tendered and an offer was made to disinfect. Pending the approval of the Local Government Board to phthisis being included among the diseases compulsorily notifiable under the local Act, a voluntary system of notification was in force, medical practitioners receiving the following fees: For each report of a case not previously reported, when reported by a private medical attendant, 2*s.* 6*d.*; for each report of a case previously reported from another source, 1*s.*; for each report of a change of address of a phthisical patient, the new address being reported, 1*s.*; for each fresh case reported from a public institution, 1*s.*; and for each change of address reported from a public institution, the new address being reported, 1*s.* On receipt of the notification a visit was paid to the premises by a medical officer specially appointed and exclusively engaged in this work. In all cases reported by a private practitioner he called at the house and made a record of the circumstances requiring to be noted on the very complete inquiry form of the medical officer of health, and gave

general instructions as to the sanitation of the house, but no directions as regards the personal habits of the patient unless authorised to do so by the medical attendant. He left, however, in every case, a general paper of instructions as regards preventive measures. No visit was paid to the house in those cases in which the medical attendant expressed a decided objection, provided he was willing himself to fill in the office form, to give all necessary instructions, and to take charge of disinfection, to be carried out in the manner usually employed by the health department. The offer to disinfect and cleanse dirty premises was found to be invariably accepted. A lady health visitor or a sanitary inspector paid a fortnightly visit to each infected house with the object of seeing that the necessary measures of precaution were being carried out, and then the circumstances were reported to the medical officer of health.

The cost of notification.—The cost of the measure in the large majority of the sanitary areas of Great Britain would not exceed a few pounds; the expenditure of about £300 per annum would suffice for the needs of a community of some 100,000. Now let them follow the economist, and disregarding the mere sacredness of human life, regard it from the standpoint of its value to the State, and they would find that the above expenditure of £300, on Farr's calculation of the economical value of a human life, would be justified if it led to the saving of two lives (at £150 each) per annum.

Dr. A. HILL (Birmingham) cordially approved of the Manchester method. In Birmingham women inspectors were sent out to inquire as to the existence of cases of phthisis, handbills were distributed, and after removal or death disinfection was practised. Beyond that no powers existed. Dr. Kenwood had traversed the subject very completely.

Dr. T. F. S. CAVERHILL (Edinburgh) said that in Edinburgh they proposed to set aside 100 beds from the old Fever Hospital. As to education of the public, it was absurd to talk of such a proceeding while in all their hospitals advanced cases of phthisis were placed alongside other complaints. Under such circumstances it was useless their telling the public that phthisis was a communicable disease. There were in Scotland two sanatoria for the treatment of the poor. In one of them, at the Bridge of Weir, there were 70 beds for women, and more were to follow for men. He thought it a drawback that notification handed over the case to the sanitary inspector, which opened up an undesirable situation. He advocated the exclusion of workmen affected with phthisis from workshops: such workmen should insure their lives.

Mr. E. B. FULLER (Cape Town) said that every week in Cape Town fresh supplies of tubercle were poured in on them in the shape of advanced cases seeking health. There was no registration. In his opinion a period of voluntary notification should always precede a compulsory system. Formerly a large number of cases were taken into the wards of the Somerset Hospital. A bungalow for phthisical patients was now erected in the hospital grounds for the reception of such cases. It was the poor who spread the disease in South Africa, especially among the coloured classes; and they were infected by Europeans coming out to the Cape.

Dr. H. JONES (Rhondda) urged the desirability of early intimation of deaths from phthisis. They, as medical officers, were entitled to such information at a small cost. They were also entitled to receive from Poor-law officers a list of all persons suffering from the disease. When a medical officer of health he supplemented that information by lists obtained from the secretaries of the friendly societies. In that way he had information of about 80 per cent. of all sickness in his district. Disinfection was still very imperfect in many districts and, without that, notification was useless.

Mr. J. OLDFIELD (London) objected to any attempt to make phthisis compulsorily notifiable as regards private patients residing in their own private houses, but there were two classes where notification should be made. In the first place boarding- and lodging-houses in favourite districts like Bournemouth were often serious foci of disease. The bedding, curtains, carpets, &c., were changed but seldom and were not disinfected, and these rooms became hotbeds of infection for other invalid boarders who went there. Steps should be taken by which all such public houses should be required to notify the presence of a phthisical visitor there. In the second place all out-patients who presented themselves at a public institution for medical treatment should be subject to notification by the medical officer who diagnosed the case.

Dr. F. J. ALLAN (London) said that in his own district there existed the largest metropolitan death-rate from phthisis. He considered notification of phthisis comparatively useless when a patient was allowed to go about anywhere and everywhere distributing the seeds of infection. He found a large number of instances of personal infection. In a series of 24 families numerous members were infected from pre-existing cases. He was not a little surprised to hear from the last speaker the antiquated theory that a man's private house should shield him from sanitary control.

Sir HUGH BEEVOR (London) then read a paper on Rural Phthisis and the Insignificance of Case-to-Case Infection.

Dr. H. PECK (Chesterfield) cordially agreed with the suggestion as to the compulsory notification of phthisis, but feared that there was little prospect of getting it. As far back as 1895 the West Lancashire Rural District Council desired to add this disease to the compulsorily notifiable list but failed to obtain the sanction of the Local Government Board. Good might be done in other ways than those indicated by Dr. Kenwood; thus the Chesterfield Infants Life Society had a lady inspector who visited all houses at which a birth had taken place and gave instructions as to nursing, sterilisation of milk, and so forth, and also as to sanitary matters including that under discussion. The corporation contributed £40 a year to the funds of the society. A large reduction of the infant mortality rate had already taken place in the two years that had elapsed since the adoption of that practice, but it was too early to speak with certainty as to the effect it had on the infantile tuberculous death-rate.

Dr. J. W. COOK (Colchester) considered that the present mode of scavenging was a source of danger in the spread of phthisis. The disinfection of houses he would press to the utmost.

Dr. KENWOOD, in reply, said that with regard to the rôle of the sanitary inspector in the notification of phthisis he had simply to fill in an official report for his medical officer and to give general directions to the persons whom he visited. As to the cost of notification, his estimate was drawn up from information of many who had actual experience of the subject. Mr. Oldfield's attitude seemed to be founded on a fallacy. He wished to protect the individual against interference which the latter did not resent. The Local Government Board would act only under great pressure, but he had no doubt they would live to see a modified notification adopted in the case of phthisis.

A vote of thanks to Dr. Kenwood and Sir Hugh Beevor was proposed by Dr. THRESH and carried unanimously.

Diet in Relation to Cancer.

Mr. J. OLDFIELD read a paper on this subject. He discussed various theories of origin and the unequal incidence of the disease. While he admitted that flesh-eating was not a cause of cancer in savage tribes he thought it was otherwise among modern civilised communities. He advocated treatment by a kind of modified starvation.

Dr. G. M. SCOTT (Witham) then read a paper on Cancer Mortality in East Anglia.

PSYCHOLOGY.

THURSDAY, AUGUST 2ND.

Insanity in Lead Workers.

Dr. ROBERT JONES (Claybury Asylum) read a paper on this subject. He pointed out that among the 1050 male patients in residence at the London County Asylum at Claybury, Essex, no less than 35 owed their mental illness to lead poisoning. The occupations most prone to suffer from lead poisoning were those of painters and house decorators, glaziers, plumbers, gilders, and workers in electro-plating, smelters of lead ores, and workers in the manufacture and glazing of pottery and china. The greatest dangers of lead poisoning, however, prevailed among those engaged in white and orange lead factories. Fine particles of "dust" passed from the furnaces into the atmosphere, the "dust" containing the carbonates and oxides of lead. The inhalation of this speedily led to acute symptoms of lead poisoning and the furnaces had to be "hooded" to prevent as far as possible this metallic contamination of the atmosphere. The fumes or vapours from the furnaces where lead ores were smelted were similarly highly poisonous, foreign ores rich in carbonates being more deadly than British ores. Lead encephalopathy had since the classical work of Tanquerel

(1840) been generally recognised. In spite of many legislative enactments in Factory Acts of recent years a considerable number of cases of lead poisoning occurred yearly and many of them were attributable to the carelessness of lead workers in the factories who did not strictly conform to the rules regarding the wearing of overalls during work, the washing of hands after work, the wearing of respirators while in the factory, &c. The symptoms of lead encephalopathy in 19 patients at Claybury Asylum were varied, and amongst them were the following: partial or total blindness often of sudden or rapid onset, attacks of partial paralysis, convulsions and fits of an epileptic or hysterical nature, maniacal excitement, melancholic depression, attacks of delirium and mental confusion, and apathy and dementia. Some of the cases exhibited symptoms very like those of general paralysis of the insane. Headache and loss of memory were also not uncommon symptoms, as well as hallucinations of sight and hearing and delusions of persecution. Epileptic fits were found to occur in seven out of 19 cases and were toxic in origin like those of uræmia and eclampsia. The treatment was expectant, dietetic, and aperient. Diet should be generous and should contain abundance of proteids—milk, eggs, tropon, or other albuminous preparations, while massage, open-air exercise in suitable cases, electric baths and galvanism, and the administration of aperients (haustus sennae compositus) were also necessary. The majority of the cases benefited under the above treatment.

Dr. LLOYD ANDRIEZEN (London) referred to the selective action of lead on the spinal cord of rabbits in producing paraplegia. In the human subject there was in some cases of lead poisoning a predisposition to encephalopathy and in others to peripheral neuritis. He did not believe that lead in the former case acted on the brain indirectly by bringing about uricacidæmia and referred to several cases where lead poisoning had been followed by acute cerebral symptoms of rapid development—e.g., delirium, mental confusion, sudden focal paralysis, and even hysteriform and hallucinatory disturbances. He also referred to some unusual cases of lead paralysis, an account of which had recently appeared in THE LANCET.[1]

Dr. E. S. PASMORE (Banstead Asylum) questioned whether in cases of lead encephalopathy simulating general paralysis the action of pre-existent syphilis could be excluded. He thought that melancholia and mania following lead poisoning were but clinical stages in one and the same condition.

Dr. HARRY CORNER (London) stated that many patients suffering from acute lead encephalopathy got well under treatment in hospital after a week or ten days and did not require to be sent to an asylum. Such cases occurring in young males might simulate delirium tremens or mania transitoria, or among young females they might be mistaken for hysteria and treated accordingly with fatal results. Many of the patients had a few epileptiform fits, such cases ending fatally.

Dr. PERCY SMITH (London) referred to the toxic action of lead as compared with syphilis and alcohol. He thought it very important that in attributing some cases of general paralysis to lead encephalopathy any history of previous syphilitic infection should be first excluded.

The Pathological Histology of Acute Delirious Mania.

Dr. JOHN TURNER (Essex County Asylum) read a paper, with lantern demonstration, on Acute Delirious Mania. The bodily symptoms were those of the typhoid state. The symptoms were extreme restlessness and weakness, feeble circulation, a dry brown tongue, sordes on the lips and teeth, a slight rise of temperature (two or three degrees Fahrenheit), and occasionally a subnormal temperature. There were three divisions of cases of the disease—viz., those of alcoholic, septic, or unknown origin, the last class being probably autotoxic. Hence this last class had been included along with general paralysis and confusional insanity in a toxic group (MacPherson). The pathological changes in the brain were shown strikingly in the giant pyramidal cells of the ascending frontal convolution when stained by Nissl's method. Nissl gave seven forms of alteration of human nerve-cells of which one was acute cell disease (acute Veränderung). The changes were said by Nissl to be characteristic and diagnostic and to affect all the cortical nerve-cells. The achromatic substance became stainable. August Hoch[2] described a similar affection of the nerve-cells and from the description given it appeared to be similar to, if not identical with, the changes found in the anterior cornual cells of animals after artificial pyrexia. In Dr. Turner's own cases the changes were localised to certain cortical cells and had not the universality of distribution throughout all layers that Nissl described. In patients dying from typhoid fever examined by him similar cortical changes were found. In all 11 cases of acute delirium were studied post mortem with the Nissl method. Every one of the cases showed in greater or less degree the following cellular changes—viz., enormous accumulation of yellow pigment in the great pyramidal nerve-cell body, a large number of free nuclei from five to six micro-millimetres in diameter within the pericellular and perivascular spaces in all the depths of the cortex, dense staining of the cell bodies of the giant pyramidal cells, and a frequent shrinkage of the nucleus. As a rule, the more profoundly the cell was altered the larger was the deposit of pigment. The dendrites as a rule retained their chromatic spindles or threads. A common visceral condition in these cases was a fatty degeneration of the liver-cells at the margin of the hepatic lobules. In one case the spinal cord was examined, but no evidence was present of degeneration of nerve-fibres in the white matter. It was concluded that all forms of acute delirious mania were of toxic origin—i.e., exotoxic (e.g., alcoholic), septic, or autotoxic. The fatty degeneration of the liver was found in the last class of cases. In those cases of acute delirious mania with high delirium and a rapidly fatal termination all the cortical giant cells were profoundly affected and it was claimed that from an inspection of a properly prepared section of the cortex a tolerably accurate diagnosis could be formed of the mental condition preceding death.

Dr. C. C. EASTERBROOK (Edinburgh) thought it probable from Dr. Turner's specimens that the pigmentary masses shown in the nerve-cells were derived from the chromophilic elements of the nerve-cell body.

Dr. LLOYD ANDRIEZEN described two cases of acute delirium in which he had studied the brain post mortem with various stains (toluidine blue, aniline, and others). He found in both an excessive reddish-brown pigmentary degeneration in nearly all the cortical pyramidal and polymorphic cells and most marked in the great pyramidal cells. Pericellular hyperplasia of connective tissue cells (plasma cells) was a common feature in both cases, and in many small arterioles there were evidences of thrombosis, apparently of several hours' duration ante mortem. There were indications of an intense and persistent toxæmia; the capillaries in both instances showed a hyaloid degeneration with excessive blue staining of the endothelium. Diffuse and universal muscular twitchings (of the arms, the legs, and the face) were present for two or three days before death in one case (that of a female), and in this the cortical changes were more marked than in the other case and could be correlated to the physical symptoms. Treatment by venesection and saline injection should be considered necessary as a last resource in acute toxic cases threatening to end fatally.

Dr. PERCY SMITH was glad to corroborate the statement that cases could be clinically distinguished according to their etiology. In one case examined post mortem there was a marked dryness of the whole organs of the body and a very small quantity of blood was present in the vessels.

The Colony Treatment of Epileptics.

Dr. W. ALDREN TURNER (London) read a paper on this subject and referred to the colony at Chalfont St. Peter as an example. Open-air treatment and occupation and manual and industrial training were necessary and possible in most instances. Only sane epileptics were admitted and the institution was in a measure self-supporting. In the treatment of fits bromides were used in combination with other known and approved drugs. Moral treatment was of great importance and classes for the education of epileptic children were held with good results.

A general discussion on the classification and treatment (dietetic and medicinal) of epileptics in farm colonies followed, in which remarks were made by Dr. ROBERT JONES, Dr. HARRY CORNER, Dr. PASMORE, Dr. LLOYD ANDRIEZEN, and Mr. ANDERSON.

The Relation of the Lunacy Laws to Neuro-Psychological Diseases.

Dr. JOHN MACCORMACK (Belfast) in a paper on this subject pointed out the risk and inconvenience to which a medical man signing a lunacy certificate might be subjected by a recovered patient bringing an action at law, though he (the practitioner) had acted in all good faith and with reasonable

[1] THE LANCET, Feb. 24th, 1900, p. 564.
[2] American Journal of Insanity, April, 1898.

care. A modification of the existing law would be desirable and even necessary. It was also urged that in all their great cities there should be established special hospitals for the treatment of mental diseases in their earliest stages and to facilitate such treatment suitable legislation should be brought about.

Brief remarks were then made by Dr. LLOYD ANDRIEZEN, Dr. DOUGLAS, Dr. SEYMOUR TUKE, and Dr. PERCY SMITH with regard to the shortcomings in the provisions of the Lunacy Act of 1890 which were certainly open to improvement.

PHYSIOLOGY.

THURSDAY, AUGUST 2ND.

Muscular Tonus in Relation to Diseases of the Nervous System.

Dr. F. W. MOTT (London) opened a discussion on this subject. He particularly regretted the absence of Professor C. S. Sherrington and Professor Victor Horsley who were announced to take part in the debate. He spoke of muscle tone as being in part muscular, in part nervous in origin, and had found, partly in conjunction with Professor Sherrington, that afferent as well as efferent nerve impulses were involved in its maintenance. He pointed out the difference between the described effects of experimental transverse division of the cord, and those due to pathological transverse lesions, and dilated on the several clinical conditions which appeared to influence muscle tone. He alluded to the work of Dr. L. J. J. Maskens, whom he was glad to see present and whose views he hoped to hear.

The President of the section, Professor W. D. HALLIBURTON (London), commented on the discordance between physiological and clinical accounts of the effect of total transverse lesions of the cord in animals and men. Perhaps this discordance was due to the effect of crushes being greater than that of clean cuts, perhaps also to the fact that man was more susceptible to shock than were the lower mammals.

Dr. L. J. J. MASKENS (Utrecht) referred to those parts of Dr. Mott's speech which bore more particularly on his own work. He instanced so-called tendon phenomena as being largely conditioned by muscular tonus. Muscular tonus, however, was not the only factor concerned, since variations in the nutrition, irritability, passive tension, and nervous relationships of the muscles produced marked alterations in their response. Muscular tonus was essentially reflex in its origin, whilst the tendon phenomenon was rather due to mechanical excitation of the muscles concerned in its production. He agreed with Westphal, Gowers, and Waller on this point and quoted an analysis of 200 cases as bearing out his view. In 66·3 per cent. of these either tendon phenomena or true reflexes were affected. In only 13·6 per cent. were both phenomena affected in the same direction, whilst in the large balance (52·7 per cent. of the total) one phenomenon was affected without any, if not with converse, variation of the other. He quoted Horsley's statement that nitrous oxide abolished the true reflexes but not the tendon phenomena. Dr. Maskens demonstrated an instrument (tonometer) designed by himself for measuring muscle tone. He had made many observations with it on the same individual under varying conditions of health and surroundings, and on different individuals under constant conditions, and regarded its indications as of value in the study of nervous disease.

Dr. W. B. WARRINGTON (Liverpool) alluded to the fact that the masticatory muscles became atonic when the sensory division of the fifth cranial nerve was cut. He suggested that the paralysis of the eye sometimes found in tabes dorsalis might be of afferent origin.

Dr. WILFRED HARRIS (London) alluded to the "tendon-reflex" in hysterical hemiplegia and paraplegia and in neurasthenia. In the former, which appeared to be due to auto-inhibition of the higher centres, the reflexes were not increased, in contra-distinction to their condition in the latter. He likened the condition of the higher centres in the former, to that of the spinal centres after a total transverse lesion.

Dr. MOTT, in reply, expressed his appreciation of Dr. Maskens's tonometer. He regarded the anterior horn-cells of the spinal cord as being in part "auto-tonic" and as in part owing their "tone" to impulses from the brain and periphery respectively. He made a few remarks on decerebrate rigidity.

Dr. W. B. WARRINGTON then read a paper on

The Condition of Nerve Cells in the Spinal Cord after Various Nervous Lesions.

It had already been shown by the speaker, in cats and in monkeys, that removal of the afferent impulses which normally reached the cells of the anterior cornua *viâ* the posterior roots caused chromatolysis in those cells. The body of a neuron was thus nutritionally dependent, not merely on its own integrity, but also on that of other neurons physiologically correlated therewith. Further experiments had been performed on puppies with the following results: (1) that extra-dural division of the posterior roots caused, in cells of the postero-lateral group in the lumbar enlargement and in the cells of Clarke's column, the same characteristic change; (2) that total trans-section of the cord was accompanied by chromatolysis followed by atrophy of the cells of Clarke's column, without change in those of the anterior horn; and (3) that division of an anterior root caused chromatolysis in most of the cells at the outer part of the anterior horn, but not in those more internally situated. The pictures of cells shown by the method of Nissl were constant under uniform circumstances, but varied with the species of the animal, its age, and the nature of the lesion. It was doubtful whether the method could be relied on to delineate nerve nuclei.

Professor E. W. CARLIER (Birmingham) asked the origin of Nissl's granula and inquired whether interruption of afferent impulses produced the same chromatolysis in a cell as did division of its own axon.

Dr. L. J. J. MASKENS asked whether regeneration followed division of the posterior roots on the central side of the ganglion. He had himself failed to find regeneration under such circumstances.

Remarks were also made by the PRESIDENT, Dr. D. F. HARRIS (St. Andrews) and Dr. F. W. MOTT.

Dr. WARRINGTON replied that he had not studied the origin and nature of the granula. He confirmed Dr. Mott's experience that cutting a posterior root did not produce chromatolysis in the cells of the posterior ganglion.

Dr. T. H. MILROY (Edinburgh) read a paper on

The Metabolism of Nucleins in Birds.

The chief end products of the disintegration of nucleins in mammals were the alloxuric bodies. In mammals assimilation of nuclein increased the amount of alloxuric bodies and phosphates both in the body and in the excreta, and disintegration of nuclein was quoted as the main source of uric acid in these animals. In birds, on the other hand, this source of uric acid had by many writers been given a secondary place, chiefly through Minkowski's experiments on the removal of the liver in geese. The birds survived the operation for so short a time only that the results of the experiments were ambiguous, and Minkowski's supposition as to the synthesis performed by the liver, although plausible, was not demonstrably complete. Dr. Milroy had introduced nucleins, nucleic acid, and alloxuric bases, both in food and subcutaneously, into sundry birds, and had found that there followed an even more pronounced increase in output of uric acid and phosphates than he had observed in mammals. He concluded from this that disintegration of nuclein was not a less important factor in uric acid production in aves than in mammalia.

The PRESIDENT commented on the result of Eck's fistula in mammals, urging that the rôle of the liver in the final stages of nitrogenous metabolism was possibly over-rated.

Dr. W. H. THOMPSON (Belfast) inquired whether Dr. Milroy had examined the output of phosphorus by the bowel.

Dr. W. E. DIXON (Cambridge) commented on the occurrence of Charcot-Leyden crystals in some cases of leucocythæmia and suggested that the said crystals might represent some of the excreted phosphate.

Dr. MILROY replied that he had invariably determined the amount of phosphate excreted by the bowel.

Dr. R. J. ANDERSON, Professor of Natural History in Queen's College, Galway, read some notes on

Respiration.

The interchange of gases between the alveolar air and the atmosphere was effected in part by bellows movements of the lungs and in part by diffusion. The former factor, since the infundibular opening was small, must produce alternate rarefaction and condensation of the alveolar air. Under ordinary circumstances these variations in intra-alveolar pressure did no harm, but when the outlet was obstructed they produced permanent change in the structure of the lung. Professor Anderson had studied the passage of gases

under varying pressures through small apertures and believed that such experiments helped one to realise what occurred in the lung. He explained the factors which governed the rate of passage under such circumstances, and thought that the passage of air into and out of the infundibula was probably slower than was generally believed.

The PRESIDENT, on behalf of Dr. M. S. PEMBREY (London), Dr. W. H. PASSMORE, and Dr. E. T. CLAYTON, read a paper on

Observations on the Temperature of Man after so-called "Heat-stroke."

Many observations had been made on the temperature of men suffering from "heat-stroke," but all had hitherto been restricted to the mouth, the rectum, and the closed axilla. The writers had supplemented these by study of the temperature of the skin, (*a*) in the normal subject, and (*b*) in cases of heat-stroke. They found in the former that the deep temperature might be experimentally raised (in some instances as much as 2° F.) by exercise without there being any corresponding increase in the temperature of the skin. In the latter, on the other hand, a rise of from 3·5° to 5·5° F. in the surface temperature had been observed. The writers hesitated to generalise until further observations were made but pointed out the frequent association of heart trouble with cases of "heat-stroke." The expenses of the observations were defrayed out of a grant from the Science Grants Committee of the British Medical Association.

PATHOLOGY.

THURSDAY, AUGUST 2ND.

Discussion on the Pathology of Cirrhosis of the Liver in Adults and Young Children.

Dr. ARTHUR VOELCKER (London), in his introduction, said that the subject chosen for discussion in that section of the British Medical Association was by no means a new one. It would be remembered that in 1895 a similar subject occupied the attention of the Medical Section of their Association meeting in London, and in 1890 Dr. Saundby read a paper before their Association on the Varieties of Hepatic Cirrhosis. At the Royal College of Physicians of London this year Dr. Cheadle took "Some Cirrhoses of the Liver" as the subject of his Lumleian Lectures. These facts showed that the subject was one of widespread interest and that it was one on which there still existed a diversity of opinion. In the short time at his disposal he should endeavour to bring before them some of the more important points concerned in the pathology of this condition and to invite their contributions to the study of this still obscure process. The term "cirrhosis" as applied to the liver was first employed by Laennec, although the condition had been described by Morgagni and was figured in Mathew Baillie's "Morbid Anatomy." The term originally had reference to the colour of the organ but it had now come to be applied to an increase in the amount of connective tissue in the organ. An increase in the amount of connective tissue in the liver was met with as the result of chronic venous hyperæmia of the organ, but this form of cirrhosis he excluded from the present discussion as it differed in no way from the fibrosis met with in other organs from the same cause. The term "cirrhotic liver" was originally applied by Laennec to the small liver having a granular surface and presenting a yellow colour. This liver, he pointed out, was associated with the presence of ascites and the condition was known as atrophic cirrhosis. Todd pointed out that there was a form of chronic inflammation of the liver which gave rise to a permanent increase in size and consistence of that organ and which was called "hypertrophic cirrhosis." These observations of Todd were confirmed by Cornil, Charcot, Hanot, and others. In 1876 Charcot and Gombault showed that by ligature of the bile-ducts in animals it was possible to produce a hypertrophic cirrhosis which they ascribed to the retention of bile, and spoke of as a biliary cirrhosis. In 1892 Hanot described a particular form of hypertrophic cirrhosis as "hypertrophic cirrhosis with jaundice," a form for which the name of "Hanot's disease" had unfortunately been suggested. Charcot and Gombault showed that in the atrophic form of cirrhosis the newly formed connective tissue was multilobular and annular in distribution, while in the hypertrophic form it was insular and monolobular in distribution. In 1874 Cornil had called attention to the presence of newly formed bile-ducts in cirrhotic livers and had pointed out that these were especially abundant in the hypertrophic form, and Charcot had considered this new formation of bile-ducts in the interlobar tissue as one of the most important features in this form of cirrhosis. Previously to Cornil's observations on the presence of these newly-formed ducts Waldeyer, Liebermeister, Klebs, and others had noted their presence in cases of acute yellow atrophy of the liver, and Wegner had observed them in the atrophic cirrhosis which he produced in animals by the administration of arsenic and phosphorus. In 1880 Ackermann advanced the view that the difference between atrophic and hypertrophic cirrhosis was not a question of a multilobular or of an insular sclerosis, but rather one of the origin of the newly-formed connective tissue. He urged that in the atrophic form the atrophy of the liver cells was the primary condition and that subsequently there was a proliferation of connective tissue starting in newly-formed blood-vessels in connexion with the hepatic artery, while in the hypertrophic form the connective tissue originated from the pre-existing connective tissue around the central and portal veins. As a consequence of this different origin of the connective tissue he explained the tendency of the former variety of connective tissue to retract and so give rise to the atrophic cirrhosis, while the latter gave rise to the hypertrophic form, having no such tendency to retract. In both varieties newly-formed bile-ducts were present. It would be noted that Ackermann's attention was directed not only to the connective tissue but also to the liver cells. He and Kundrat and others had already shown that in the cirrhotic liver the areas inclosed by connective tissue did not correspond to the lobules of the liver. They showed that in cirrhosis the lobules of the liver must be partly destroyed, because in a section there were seen fewer central veins than in a normal liver, and that if the lobules were merely compressed they should find more instead of fewer acini in a given area. Kretz, examining serial sections of cirrhotic livers, had noted that in some cases there was only one liver granule possessing a central vein where normally there should have been eight or nine. Besides this alteration in size it was to be noted that the sub-lobular vein was no longer central in position and that the hepatic cells had lost their radial arrangement. These appearances of the liver cells bearing a very close resemblance to those observed by Ponfic in his experiments on the regeneration of liver tissue after the removal of portions of the organ gave rise to the view that in cirrhosis they had to do with a destruction and regeneration of liver tissue going on side by side. With this destruction of liver tissue they found alterations in the hepatic capillaries, and according to Kretz it was these changes in the hepatic capillaries that gave rise to the portal congestion and ascites. The classification of cases of cirrhosis into multilobular, monolobular, and pericellular had been shown to be hardly exact, and Ackermann, Stadelmann, and Orth were of the opinion that there was no essential distinction between the atrophic and hypertrophic forms, or between the perilobular, pericellular, and multilobular varieties of hepatic cirrhosis. From this view, however, Rosenstein dissented. Most observers agreed that the pericellular distribution of the connective tissue led to the hypertrophic form of cirrhosis, yet Ackermann and Stadelmann denied that this distribution was peculiar to hypertrophic cirrhosis. An examination of a number of sections of cirrhotic livers left Dr. Voelcker with the impression that there was a very distinct difference between the peripheral and the intercellular forms of cirrhosis, and while it was true that in the peripheral forms of sclerosis (the multilobular and monolobular forms) there was met with a slight degree of intercellular sclerosis, and in the intercellular form a slight degree of peripheral sclerosis, yet there was never any difficulty in determining to which category to refer the chief change, though he did not think that a microscopical section would enable one to form an accurate idea of the naked-eye appearances of the organ. In this respect the liver closely resembled the kidney. An attempt to classify the various forms of cirrhosis of the liver presented as many difficulties as in the case of the kidney, but he thought that they would do best if they adopted a classification which related to the physical condition of the organ rather than to any etiological consideration or to any symptomatology; thus a classification into alcoholic and non-alcoholic cirrhoses must be unsatisfactory when they did not know what particular change alcohol would produce in a given liver. Again, a classification based on the presence or absence of jaundice

was no more rational than would be a classification of interstitial nephritis based on the presence or absence of uræmia. To the morbid anatomist the chief considerations were—what was the size, what was the character of the surface of the organ, and what were the changes in the interstitial tissue and the parenchyma of the organ? Cirrhotic livers might be large, normal, or small in size and weight; they might be smooth or granular on the surface; the fibrous tissue might be mainly in the periphery of the granules or might be chiefly intercellular, and lastly, the liver cells might be atrophied, fattily degenerated, or show regenerative processes. The processes might be acute or chronic. An example of acute cirrhosis was seen in the condition known as acute yellow atrophy in which Dr. Findlay of Glasgow had shown that in addition to a proliferation of the liver cells at the margin of the hepatic lobule there was also a condition of acute cirrhosis. This had been described by Obrzut in 1886 and claimed by him to be similar to the atrophic cirrhosis of Laennec and the hypertrophic cirrhosis of Hanot, Sabourin, and Charcot. The chronic forms they could divide into those in which the chief change occurred in the parenchyma, the fibro-fatty form, and those in which the interstitial connective tissue was more particularly affected. Of these cases there were those in which the distribution of the connective tissue and its tendency to retract gave the organ an irregular surface tending to produce the hobnailed liver, and those in which the intercellular distribution of the connective tissue caused a more uniform enlargement of the organ. Microscopical examination of a number of specimens of cirrhotic livers inclined him to the belief that the hobnailed livers, both large and small, were those in which the newly-formed connective tissue would be found to have chiefly a portal distribution, while the extremely hard, enlarged, smooth livers were those in which they found a pericellular sclerosis. The nature of the granules seen on the surface of the hobnailed liver had given rise to some discussion. At first it was thought that they were lobules of the liver which had undergone fatty change and had been compressed by the retraction of the connective tissue, but it was now recognised that the liver cells were often quite free from any fatty change and frequently showed signs of active cell division; the yellow colour was mostly the result of bile staining. It was interesting in this connexion to note that the granules seen on the surface of some cirrhotic kidneys showed similar regenerative processes. With regard to the origin of the connective tissue they had seen that Ackermann held that in the atrophic form of cirrhosis the connective tissue was derived from the newly-formed branches of the hepatic artery while in the hypertrophic form they had to deal with a hyperplasia of the normal connective tissue existing in the interlobular and intralobular hepatic areas. According to Hanot in the atrophic form the connective tissue originated from a portal cirrhosis, while in the hypertrophic form it arose around the biliary canaliculi—that was to say, that they had evidence of an angiocholitis and peri-angiocholitis. Hamilton described the formation of connective tissue from the liver cells themselves. According to de Jong the newly-formed intralobular connective tissue had its origin from the endothelium of the intralobular capillaries, while the increased perilobular connective tissue chiefly arose from the pre-existing perilobular connective tissue and the changes were perivascular. In a very able article in the *Recueil de Travaux du Laboratoire* Boerhaave de Jong figured the development of the new connective tissue from the endothelial cells of the intralobular capillaries. Liebermeister distinguished three different forms of cirrhosis: (1) a portal form in which the connective tissue originated from the portal vein; (2) a biliary cirrhosis in which it originated from the connective tissue around the bile-ducts; and (3) a mixed form in which it was derived from both sources. There was another point on which there was still a difference of opinion and that was, Was the primary change in the liver cell and was the cirrhosis secondary to this, or was the fibrosis primary and were the changes in the liver cells secondary? Ackermann held that in atrophic cirrhosis the primary change was in the liver cell and that the cirrhosis was secondary to this, but they must remember that they frequently found degenerative changes in the liver cells without any cirrhosis. Kretz pointed out that in hepatic cirrhosis after the degeneration of liver cells the residual tissue of the recognisable acini presented all stages from the framework of the vessels of the lobule up to a poorly vascularised sclerosed connective tissue containing bile-ducts. He regarded cirrhosis as a local, widespread, recurrent, chronic degenerative process, associated with regeneration of the parenchyma. Opposed to this view they had the one that the changes in the liver cells were secondary to the pressure of the connective tissue. Although it was true that they did find degeneration of the liver cells with cirrhosis, yet there was no relation between the amount of cirrhosis and the degree of degeneration. Sieveking had shown that the presence of connective tissue around liver cells was not necessarily associated with any degeneration of the cells. It seemed to Dr. Voelcker to be most reasonable to see in cirrhosis of the liver the effects of one or more poisons on the liver cells and also on the connective tissue, and the occurrence of degenerative or regenerative processes would depend on the nature of poison and on the power possessed by the liver cell to resist it. Another element present in the cirrhotic liver which might occupy their attention was the formation of new bile-ducts, the pseudo-biliary canaliculi. Charcot and Gombault considered that these newly-formed ducts were the essential change in the hypertropic form of cirrhosis, but they knew now that not only were they present in other forms of cirrhosis but that they were seen in aseptic inflammatory foci in the liver, in acute yellow atrophy, and in poisoning by phosphorus. They were met with in cases in which there was jaundice as well as in those in which jaundice was absent. It was at first thought that they were not new bile-ducts, but merely the pre-existing ones rendered visible by the atrophy of the surrounding liver cells, but this view was now abandoned. The origin of these ducts had been ascribed by some to a transformation of the intralobular bile canaliculi and by others to a direct retrogressive metamorphosis of the columns of liver cells. Ackermann thought that the epithelium of the interlobular bile-ducts proliferated and spread down into the interior of the dilated bile capillaries, thus giving rise to new canaliculi while the liver cells disappeared. De Jong, on the other hand, had traced the actual continuity of columns of liver cells and the new bile-ducts and he figured sections of imperfectly formed tubules partly lined with liver cells and partly with bile-duct epithelium. It was certainly interesting in this relation to reflect on the high degree of metaplasia with which pathologists had endowed the liver cell, for they had already been asked to accept the fibrous tissue in cirrhosis as derived from the liver cell. Dr. Voelcker confessed to a certain amount of scepticism as to the nature of these so-called ducts. They always suggested to him lymphatics or blood-vessels. He could not find any record of their having been injected from the bile-ducts. It certainly was true that in many cirrhotic livers one could see columns of liver cells especially at the margins of a granule becoming elongated and thinned out and flattened, but it was very difficult to understand how such damaged cells should give rise to bile-ducts lined with cells the staining powers of which certainly suggested very great vital activity. The etiology of hepatic cirrhosis still remained obscure although their views had considerably enlarged since the days when alcohol was regarded as the cause of cirrhosis. In the *Quarterly Medical Journal* for July, 1899, Rolleston gave an admirable summary of the origin of, and ways in which, various poisons reached the liver and set up cirrhosis. With the object of seeing if alcohol would account for the cases of hobnailed liver Dr. Voelcker had examined the notes of all the cases of hobnailed livers which he had met with in the post-mortem room at the Middlesex Hospital during the time he was pathologist and found in the 36 cases referred to below 15 in which an abuse of alcohol was acknowledged, nine in which an abuse of alcohol was denied, and 12 in which the history was not mentioned. He found that out of 2020 necropsies of which he had records there were 149 cases of cirrhosis of the liver (that was excluding those cases where the condition was evidently due to chronic venous hyperæmia). This showed a percentage of 7·3 cirrhotic livers in cases of all ages. Of these the liver was hobnailed in 38 cases—that was to say, that nearly 25 per cent. of the cirrhotic livers were hobnailed. The percentage of hobnailed livers to all the cases was 1·8 per cent. In 10 cases the liver was enlarged and smooth and in only one of these cases was there any jaundice present and it was only slight. Of these 10 enlarged livers only nine were weighed and the average weight of the nine was 104 ounces. Of the hobnailed livers he had records of the weights of only 22 The average weight was 64·4 ounces, the lightest being 44 ounces, and in only eight was the weight below 60 ounces. Jaundice was present in only 11·4 per cent. of all cases of cirrhosis, but was present in over 30 per cent. of the

hobnailed cases. The average weight of the livers in the cases in which jaundice was present was 60·2 ounces. In the hobnailed livers no relation could be traced between the size of the organ and the occurrence of jaundice. Among the 149 cases of cirrhosis there were only five occurring in children, and of these three were undoubtedly the subjects of congenital syphilis. With the object of comparing the incidence of cirrhosis of the liver in children Dr. Voelcker had examined the records of the Hospital for Sick Children and found details of 4278 necropsies on children under 12 years of age. Amongst these he could only find 23 cases of cirrhosis—that was only in 0·54 per cent. Jaundice was present in eight cases out of the 23. Hobnailing was present in 13 cases—a much larger proportion than in the adult cases. It was commonly asserted that the hobnailed liver was the result of spirit-drinking and that malt liquors caused fatty degeneration of the liver cells. He had tried from the clinical notes of the cases of hobnailed livers to see if he could confirm this and he found that he could not. It was very difficult to obtain reliable statements as to the amounts and form in which alcohol was taken and specialism in alcohol-drinking was not usually a characteristic of hospital patients. In a few cases in which beer was exclusively taken the average weight of the liver was 63·8 ounces, while when spirits alone were owned to the average weight was 66·3 ounces. These observations were made on far too few cases, but they confirmed the view expressed by Foxwell that the large livers were rather more common in spirit-drinkers than in beer-drinkers. They also showed that the "gin-drinker's liver" could be produced by beer. Alcohol undoubtedly played an important part in the production of cirrhosis of the liver, but the way in which it acted was as yet uncertain. Alcohol administered experimentally to animals produced fatty degeneration of the liver cells, and though some observers had produced cirrhosis he could find no record of the production of a hobnailed liver. Apart from alcohol they now knew of a number of substances which were credited with the production of cirrhosis and it was to be hoped that further research in this field might enable them to prevent the formation of those poisons which they must assume gave rise to the liver changes. Professor Flexner had already shown that cirrhosis could be produced by chronic poisoning with certain vegetable alkaloids. The action of these poisons had led them to look outside the liver and the intestinal canal for the source of the substances causing cirrhosis and particular attention had been drawn to the spleen. Enlargement of the spleen was very common in hepatic cirrhosis but did not bear any direct relation to the size of the liver or to the degree of ascites. Chauffard suggested that some forms of hepatic cirrhosis were splenic in origin and due to poisons formed in the spleen and in the rare disease known as the *maladie de Banti* it was stated that removal of the spleen caused an arrest of the disease. The enlargement of the spleen in hepatic cirrhosis was explained by Charrin as being due to the spleen taking on some of the antitoxic functions of the liver which were interfered with by the destruction of the liver cells. Changes had also been observed in the pancreas bearing a close resemblance to those found in the liver. In the kidneys chronic interstitial nephritis was not uncommon and Dr. Voelcker found that in nearly 10 per cent. of his cases of cirrhosis of the liver the cause of death was due to the renal and not to the hepatic condition. Of course, it must be remembered that here age played an important part, but he found that in exactly one-third of the cases of cirrhosis of the liver death took place at or before 40 years of age. This hurried review of some of the debateable points concerning the pathology of cirrhosis would, Dr. Voelcker hoped, serve as an indication of the lines along which discussion might advance their knowledge. The points which seemed to him to call more especially for discussion were:—1. Could they distinguish between the various forms of cirrhosis microscopically and macroscopically? 2. What was the source of the newly-formed connective tissue? 3. What was the nature of the so-called newly-formed bile-ducts? 4. Under what conditions could cirrhosis of the liver be experimentally produced? 5. Did cirrhosis in children differ essentially from cirrhosis in adults?

Professor SIMON FLEXNER (Philadelphia) said that Dr. Voelcker had so ably summed up their present knowledge of cirrhosis and so definitely emphasised the problems which most pressed for solution that in speaking on any topic of the discussion one could hardly avoid repetition. He himself proposed to consider three points: first, the experimental evidence that lesions of the liver cells preceded changes in the connective tissue; secondly, the nature of the new tissue formed in cirrhosis and its distribution: and thirdly, the common cause of death in the disease. Professor Flexner's experiments included the inoculation of guinea-pigs and rabbits with bacterial poisons, with poisons from higher plants, and with certain animal substances. The chief results had been obtained with ricin and abrin, and with blood-serum from the dog injected into rabbits. In these experiments the primary effects of the poison were exerted on the liver cells. Necroses, involving few or many cells and hyaline in appearance, were common. In animals which died from acute poisoning these necroses were the principal and, excepting a moderate leucocytic infiltration, the only important lesions. When the animals survived for some weeks proliferative changes in the connective tissue with the production of so-called newly-formed bile-ducts were produced. When the new growth of tissue came from the surface capsule indentation of the organ was produced, suggesting the surface granulation in atrophic hepatic cirrhosis. Whilst these results were suggestive of the part played by a primary degeneration and necrosis of the parenchyma they failed to clear up entirely the question, in that they did not exactly reproduce the morbid appearances seen in hepatic cirrhosis in man. They had been in the habit of looking upon the new connective tissue found in cirrhosis of the liver as being of the nature of white fibrous tissue. But as a matter of fact it was more complex in structure. The liver contained, normally at least, three kinds of connective tissue: (1) white fibrous tissue, in the interlobular spaces and on the surface capsule chiefly; (2) reticulated connective tissue within the hepatic lobules; and (3) elastic tissue, chiefly about the blood-vessels, and to a less extent on the walls of the bile-ducts, in Glisson's capsule, and on the surface capsule. Very rarely a trace of elastic tissue might be seen in the walls of the central veins. A study of tissues from cirrhosis after ordinary staining, then after digestion with pancreatin, and finally after staining by Weigert's method, showed that not one only but all the connective tissues enumerated were increased or altered. The most surprising result was the great amount of elastic tissue found in the perilobular new growth of connective tissue, which elastic tissue was now found also within the lobules. There were differences in the amount and method of distribution of this tissue, as well as in the alteration on the intralobular reticulum, in the "atrophic" and "hypertrophic" forms of cirrhosis which time would not allow to be discussed now. The specimens shown would enable some of the differences to be appreciated. Finally, Professor Flexner referred to the statement made by Professor Osler to the effect that "it is paradoxical but true that few of our patients die of the diseases from which they suffer." Professor Osler was more especially speaking of the causes of death in chronic diseases, recognising that in the last event it was not the sudden failure of hepatic, or renal, or of cardiac capacity that ushered in the end. In most cases, so far as they could now understand, the end was actually due to a bacterial infection. Professor Flexner's own study of several hundred cases of chronic disease which had been investigated bacteriologically had convinced him of the importance of such terminal infections. The chief micro-organisms concerned were the pyogenic cocci. They might, moreover, occur as causes of local infections—especially in inflammations of serous membranes—or they might exist in the form of a general invasion—a bacteræmia. The portal of entry might, or might not, be discoverable clinically or at the necropsy. It might be through an angina, an old ulcer (as on the leg), or as the result of a trifling surgical operation, as in paracentesis. Or it might baffle every attempt at its discovery, and then they spoke of the infection as having been cryptogenic. And it was in this way that the end often came in cases of cirrhosis.

Mr. A. G. R. FOULERTON (London) presented a contribution to the discussion from Professor LUDVIG HEKTOEN (Chicago) on Experimental Bacillary Cirrhosis. Without entering into the broad questions of the etiology and genesis of cirrhosis of the human liver Professor Hektoen wished to refer briefly to some recent demonstrations made in his laboratory of cirrhotic processes in the liver of lower animals directly induced by two different bacilli. The observations had seemed to him to be of some interest in their suggestiveness of a somewhat similar course of events in some instances of human cirrhosis.

Similar more or less acute infections in man might produce a diffuse growth of new connective tissue in the liver. Then whilst the bacteria might be destroyed and the immediate effects of their presence pass away the newly-formed tissue would remain, and as it contracted a vicious cycle would be established—the pressure of the resultant fibrous tissue causing necrobiosis of the hepatic cells and this in its turn leading to renewed, more or less slow, but progressive, connective tissue proliferation. With time, aided perchance by other superinduced factors, extensive contraction of the liver would result. One of the series of observations now referred to was conducted by Dr. G. H. Weaver, and the main results had already been published under the title of "Cirrhosis of the Liver in the Guinea-pig Produced by a Bacillus and its Products."[1] The bacillus belonged to the colon group and was isolated from a guinea-pig which had died a natural death. The bacillus lost its virulence rapidly and before sufficient experiments had been made to establish clearly the relation between the necrotic and proliferative changes on the liver. With early death only necrotic and degenerative changes were found in the liver; in animals which lived longer proliferation of connective tissue was associated with necrosis; and in others again a cirrhosis had entirely replaced the degenerative changes. These interesting changes were found only in guinea-pigs, showing well the influence of species; they were caused by the inoculation of devitalised as well as of living cultures. The second series of experiments concerned a bacillus which might be placed in the pseudo-diphtheria group. It was isolated from the lesions of a case of blastomycetic dermatitis of the hand. Inoculations in various ways with this bacillus had been found to induce with a fair degree of consistency more or less necrosis and diffuse cirrhosis of the liver in guinea-pigs. Unfortunately, this bacillus also lost its virulence before many of the experiments planned could be completed. It would have been of the greatest interest to follow up the subsequent course of the cirrhosis set up in some of the animals. After a full description of the cultural characteristics of the bacillus Professor Hektoen mentioned his experiments on animals. In guinea-pigs the subcutaneous injection of about one cubic centimetre of a bouillon culture produced in from two to four days a marked hard infiltration beneath the skin, followed by the development of more or less extensive punched-out ulcers, which usually healed up after a time. The animals became thin and died in from three to five weeks. The essential change found post mortem was necrosis with cirrhosis of the liver. The bacillus could usually be recovered from the internal organs and from the cutaneous ulceration. Occasionally the local reaction failed to take place and the animals at times recovered. In a few instances local infiltration and ulceration took place, but no other changes were found. The general results with intraperitoneal injection were similar but not so constant. Intravenous or subcutaneous injection of one cubic centimetre of bouillon culture into rabbits did not make the animals sick or produce any change in the liver. Inoculation into the anterior chamber of the eye of a full-grown, medium sized rabbit resulted in great emaciation and death after 24 days with cirrhotic and other changes in the liver. The subcutaneous injection of two cubic centimetres of bouillon culture in a dog gave rise to a huge swelling which gradually subsided. The animal was killed with chloroform six weeks after the injection. The liver was of about normal size, finely uneven, with occasional single greyish dots or groups of dots. There was a slight sensation of grating on cutting the organ. Microscopical sections showed numerous small intralobular islands of recently developed connective tissue cells as well as of small cells with deeply stained irregular nuclei. There were also branching bands of recent connective tissue along the vessels. Inoculation of a grey mouse with 0·3 cubic centimetre and of a white mouse with two cubic centimetres of a bouillon culture made the animals sick for a time. But both recovered, and when killed on the twenty-first day their livers were found to be normal. Photographs of microscopical sections were shown which demonstrated the cirrhotic change produced in the liver of the guinea-pig by both the bacilli to which Professor Hektoen had referred.

Dr. LAZARUS-BARLOW (London) said that the two chief points upon which he would like to lay stress referred to the pathology of atrophic cirrhosis in adults and in children. In the case of the atrophic cirrhosis of adult life he thought that the old idea that the condition depended chiefly upon an undue indulgence in alcohol and especially on the abuse of ardent spirits was correct, and he did not propose to enter into the question of etiology at all. But when they came to the question whether the condition was "inflammatory," as was at one time the universal idea and as was still held by some noteworthy authorities, he thought that they were on very doubtful ground. It was certainly curious that they should never have been able, supposing that the change were inflammatory, to point out a specimen as showing an early stage of the fibrosis comparable with the early stages of true inflammatory fibrosis which was so common a condition, and one which carried such a definite microscopical picture with it. That they under certain conditions met with an atrophic fibrosis which was accompanied with the presence of a small cell infiltration amongst the adventitious fibrous tissue was indubitable. Such cases were, however, in his experience extremely rare; and even then the fibrous tissue that was present was of a well-formed type, and was totally unlike the material composing a young cicatrix, for example. In these rare cases his own opinion was that they had to do with the superposition of a genuine attack of inflammation on a tissue which was already the seat of a chronic fibrosis, but he did not think that they aided them in any other than a negative manner to arrive at a conclusion upon the pathology of the underlying fibrosis itself. If they considered the fibroses as a distinct class of pathological change in which extreme chronicity was one of the predominating features they could include under one heading (*a*) senile fibroses of all kinds, (*b*) cirrhosis of the liver, (*c*) chronic granular kidney, and (*d*) the scleroses of the nervous system. Now in the case of the scleroses of the nervous system there had never been any tendency to consider the fibrotic change as inflammatory, but, on the contrary, it had always been recognised that the adventitious fibrous tissue replaced nervous tissue which had degenerated—that was to say, the essential elements of the part degenerated first and the overgrowth of neuroglia took place subsequently to fill up what they might speak of as a potential lacuna caused by the death and degeneration of the nervous elements. It was unnecessary for him to pursue this matter further; he merely wished to draw the inference that in the case of hepatic cirrhosis they had first a destruction of the hepatic cells themselves, be it as the result of the action on them of alcohol or of some of the bacterial poisons, and that subsequently there occurred an overgrowth of the normal fibrous tissue of the liver to fill up a potential lacuna. Naturally in any microscopical picture they would find these features side by side, but since the destruction of hepatic cells must be a more or less gradual process, otherwise the onset of the disease could not be so insidious as it undoubtedly was, there was every reason to expect that signs of a rapidly forming and young fibrous tissue would be wanting, and this was just what they found to be actually the case. It might of course be urged against this view that the dead and degenerating hepatic cells, being foreign bodies, acted as irritants, and that in consequence the fibrous tissue was of the same nature as the fibrous tissue of a cicatrix. To these objections he would suggest that upon this view their conception of inflammation would have to be widened until it embraced the whole of pathology with the exception of the new growths. While he would express his belief that the pathology of the fibroses was as he had indicated, he thought that this was especially likely to be the case with the atrophic fibroses of the liver. With reference to the so-called unilobular or biliary cirrhosis the matter was very difficult. He had never been able to satisfy himself of the separate existence of this variety as a distinct histological type. That large and fairly smooth livers of considerable weight in which there was a widespread and small-meshed fibrosis were met with, was true, though they were by no means common. But he had never been able to convince himself in the few cases that he had examined either that the condition was unilobular or that it had any special relationship with the bile-passages. Intercellular or pericellular cirrhosis was in a special class by itself, and that variety, too, he would leave on one side. But there was a variety of hepatic fibrosis which was usually very intense and which led to a more marked lobulation of the surface of the liver than any but the most extreme cases of adult atrophic fibrosis exhibited, and to these he would like to refer. These

[1] Transactions of the Chicago Pathological Society, 1900, iii., p. 228.

cases were not very common; they affected children at an older age than was the case with intercellular fibrosis (usually the patients were from 10 to 16 years of age), they were often associated with great ascites and with a well-marked jaundice of a greenish hue, and distension of the abdominal superficial veins was, as a rule, considerable. The cases were sometimes of long duration, at times extending into years, but they progressively became worse and ultimately the patient died in the same manner as the adult who was the subject of ordinary atrophic cirrhosis. That alcohol might play its share in the production of this variety of hepatic fibrosis was quite possible, but the view which he first heard put forward by Rolleston seemed to him to be more in accordance with the facts. Rolleston had suggested that this form of cirrhosis was really a late manifestation of congenital syphilis, not in the sense that it was a distinctly syphilitic lesion, but that the syphilitic poison when it acted upon the liver cells of the fœtus to a degree less than that which was necessary for the production of the typical syphilitic intercellular cirrhosis damaged them, and thus placed the liver in an exceptionally vulnerable position. When, then, some factor arose which would be without effect upon the healthy liver but which completed the injury commenced in intra-uterine life by the syphilitic poison, the way was laid open for the occurrence of that fibrous tissue hyperplasia which ultimately characterised the hepatic condition. The great difficulty in the way of the suggestion that had just been put forward was the fact that a syphilitic history was, in the cases which they were considering, often very poor, or, indeed, was quite wanting. Though they might say that this was just what they should expect it considerably reduced the possibility of proving the point. At times, however, as in a case which he had brought before the Pathological Society of London last year, collateral evidence was fairly strong. In any case an explanation of the pathology of this variety of hepatic fibrosis was difficult, but on the congenital syphilis hypothesis many of the difficulties vanished.

Dr. WAKELIN BARRATT (Wakefield) thought that considerable light was thrown upon the pathology of hepatic cirrhosis by the numerous attempts which had been made of late years to produce this condition experimentally in animals. Most of these experiments—such, for example, as the administration of drugs by the mouth or the alteration of an animal's usual diet—had afforded results which either were inconstant or were incapable of being carried to an extreme degree and were further open to the objection that the whole of the liver was affected and thus the general metabolism of the animal was disordered. The only means of producing hepatic cirrhosis strictly localised in extent and gradually becoming intense in degree was by ligature of one of the bile-ducts and this method alone possessed the character of being simple in so far that a fraction only of the liver was involved and that no general effects were produced, the functions of the liver being carried out without any recognisable impairment by the remaining portion of this organ. Only this mode of production of hepatic cirrhosis would therefore be considered now, since it alone possessed the constancy and certainty of effect on the one hand and the definite limitation of area on the other hand which were necessary to scientific investigation. The earliest observer who ligatured a single bile-duct in the investigation of hepatic cirrhosis was Nasse[2] who in 1894 by this means succeeded in producing increase of interlobular connective tissue. About the same time Josselin de Jong[3] performed similar experiments. When strict antiseptic precautions were used he could find no change in the liver. In 1897 Professor Vaughan Harley and Dr. Barratt had commenced to investigate the effect of ligature of a single bile-duct.[4] They were not aware at this time that other observers had worked in the same direction. Their experiments, which were aseptic throughout, were made upon cats and dogs and showed that cirrhosis always resulted in the corresponding liver area when a single bile-duct was ligatured. The general health of the animals was not impaired, though the cirrhosis, which was always limited in distribution, was slowly progressive in the affected area. Microscopic examination showed that in the area of the liver corresponding to the ligatured duct there was a development of interlobular connective tissue, rich in elongated nuclei, together with marked hyperplasia of the biliary ducts, presenting in this respect an exaggerated picture of what was seen in human hepatic cirrhosis. The larger bile-ducts were dilated and tortuous and the affected hepatic lobules were much diminished in size. Sometimes multi-nucleated cells were seen in small collections in the interstitial tissue. There was no appearance of jaundice or ascites. Their observations, which were continued over lengthened periods of time, furnished a complete demonstration of the fact that simple ligature of a single bile-duct produced cirrhosis in the corresponding liver area. Owing to the simple nature of the operative interference and the good general health which the animals subsequently enjoyed many of the disturbing factors which were present in the human subject were here absent and the problem of the mode of production of the changes in the liver was reduced to its simplest form. It was clear, also, that the processes which were effective in experimental cirrhosis must also under analogous circumstances be in operation in the human subject. After ligature of a bile-duct the functions of the corresponding area of the liver were not abolished. Bile continued to be secreted and was found in the bile-ducts, just as in the human subject bile continued to be formed, giving rise to jaundice, after complete obstruction of the ductus communis choledochus. It would appear that this continued secretion of bile after ligature was a most important factor in the production of cirrhosis. It was well known that fluids injected under increased pressure into the biliary passages found their way into the circulation. This was generally regarded as wholly osmotic in its nature, though it did not appear certain that the absence of rupture of some of the finer biliary passages could be altogether excluded.[5] When bile thus escaped from the blocked biliary passages it entered in the first instance the lymph spaces.[6] It then of necessity acted as a slow irritant, and it would appear that the interlobular fibrosis which took place in the affected area must be attributed essentially to this factor. To the increased pressure of bile in the biliary passages must also be attributed the dilatation of the larger bile-ducts and the hyperplasia of the smaller ones which was so striking a feature in experimental cirrhosis. The atrophy of the liver lobules in the ligatured area appeared to be due to the irritation of escaped bile acting upon the cells at the periphery of the lobule; it was not readily explicable as a pressure effect. The above was a short outline of the leading characters of experimental hepatic cirrhosis, due to the blocking of the biliary channels coming from a limited area of the liver, a cirrhosis which might truly be termed "biliary." Further experimental work was still required to determine the extent to which hepatic cirrhosis in the human subject was to be regarded as of the same nature as the extremely simple experimental form which had here been described. The study of hepatic cirrhosis was in fact reduced to its simplest conditions when a purely localised cirrhosis was produced by a lesion which involved a fraction of the liver only, leaving the rest of the liver, as well as distant organs, unaffected, and producing no recognisable change in the general condition of the animal.

Dr. T. D. LISTER (London) referred to the case of a boy, aged five years, who died after an illness lasting for about 13 days. The main symptoms had been vomiting and straining at stool. The stools consisted mainly of mucus and blood, and were passed frequently. The vomited matters had contained blood during the last four days of the illness. At first an intussusception had been suspected and an exploratory laparotomy was performed a week before death. The post-mortem examination showed a diffuse ulcerative colitis, intense congestion of the gastro-intestinal tract, and blood everywhere on the mucous surface of the stomach and the small and large intestines. The liver was very pale, somewhat fatty, rather firm, but gave no lardaceous reaction; there was no irregularity or thickening of the capsule, and a normal resistance to laceration. There was nowhere any evidence of congenital syphilis and the family history was good in this respect. Microscopical sections of the liver were shown. Dr. Lister considered that the case was a suggestive instance of the association of an acute interstitial hepatitis with an acute diffuse hæmorrhagic ulcerative catarrhal colitis of uncertain origin, which had caused death by hæmorrhage and exhaustion.

[2] Semaine Médicale, 1894, p. 202.
[3] Cirrhosis Hepatis, Inaugural Dissertation, Leyden, 1894.
[4] For a preliminary account vide Brit. Med. Jour., Dec. 10th, 1898.
[5] Cp. Wakelin Barratt: On the Effect on Injecting Dilute Sulphuric Acid into the Common Bile-duct, Journal of Pathology and Bacteriology, 1898, pp. 340–347.
[6] Vaughan Harley: Leber und Galle während dauernden Verschlusses von Gallen und Brustgang, Archiv für Anatomie und Physiologie, 1893, p. 291.

Dr. THEODORE FISHER (Bristol) did not agree with the view which looked upon all examples of increase of fibroid tissue in the internal organs as the result of degenerative changes in the more important elements. In acute and subacute inflammations of the kidney the interstitial tissue was often extensively affected, and although no doubt most forms of fibroid disease of the heart might truthfully be described as the consequence of degeneration there could be no doubt that in acute myocarditis the interstitial tissue sometimes suffered as severely as the muscular fibres. Some of the acute and subacute inflammations of the kidney were due to septic micro-organisms or their products, and he believed that an interstitial hepatitis might arise in the same way. Dr. Fisher had seen cases which seemed to bear out the view suggested by the experiments of Professor Hektoen, that septic infections might set up cirrhosis of the liver. In a woman, aged 22 years, who died from septicæmia two months after an operation for suppurative appendicitis, extensive acute cirrhosis of the liver was present. Not only was there active proliferation of the connective tissue, but as in the cases of inflammation of the liver produced by Professor Hektoen, a guinea-pig's, multinuclear leucocytes were present in considerable numbers in the intralobular capillaries, while other leucocytes outside the capillaries ran up between the columns of liver cells. Another interesting case was that of a woman, aged 26 years, who died after three months' illness from chronic pyæmia. The naked-eye appearances of the liver were unlike those of any other liver which he had seen, and at first sight almost suggested pictures of acute yellow atrophy of the liver. The yellow, fattily-degenerated, liver substance was cut up into areas of all shapes and sizes by fibrous tissue of peculiar translucency and of bright reddish flesh-colour. Two other interesting cases of acute cirrhosis of the liver had been met with. One was in a boy, aged four years, who had died after three weeks' illness from broncho-pneumonia (which in most instances might be looked upon in children as an evidence of septicæmia), and the other in a case of suppurative peritonitis, pleurisy, and pericarditis occurring in a boy, aged 13 years. In these cases the naked-eye evidence of cirrhosis of the liver was much less marked. In one case thread-like lines surrounded the lobules, in the other microscopical sections alone revealed the morbid changes. A case of Banti's disease occurring in a man, aged 19 years, was also referred to. It was thought that if Banti's theory of the pathology of this disease be correct it must be similar in nature to the above cases. The history of the case, taken in connexion with the view that infection took place through the spleen, was interesting. On four occasions during the space of two years the patient had been admitted to the Bristol Royal Infirmary with a raised temperature, complaining of pain over an enlarged spleen. On the fourth occasion he died. At the necropsy, in addition to the enlarged spleen, which weighed 29½ ounces, multilobular cirrhosis of the liver was present.

Dr. JAMES L. MAXWELL, jun. (London), pointed out the close resemblance in the appearance of sections of cirrhosis of the liver after ligature of one of the bile-ducts and of the changes found in sections of the liver in congenital atresia of the hepatic duct. In two cases of the latter condition which he had examined the same position of the fibrous tissue was seen and the same freedom of the unaffected hepatic cells from any intercellular cirrhosis was noted. There was a further resemblance in the multiplication of bile-channels, many of which contained inspissated bile. Dr. Maxwell also questioned the value of Dr. Voelcker's statistics of cirrhosis of the liver in children, taken as they were from the post-mortem room. He urged that very frequently in pericellular cirrhosis there was no change in the naked-eye appearance or in the shape of the liver. He mentioned two cases of extreme cirrhosis of the liver in infants with congenital syphilis which he had examined in which there were no obvious macroscopical changes. Also in stillborn children it was comparatively common to find advanced forms of cirrhosis and again without any macroscopical evidence of the changes. In these cases there was not a fibrosis in the proper sense of the word but a large increase of the connective tissue element between the individual hepatic cells. He was inclined to think that this cellular element would have developed into the ordinary fibrous tissue in such a child had it survived birth.

Dr. STUART MCDONALD (Birmingham) referred to a case of cirrhosis of the liver in a girl, aged 15 years, which terminated fatally with hæmorrhage from a rupture in a clump of varicose veins situated in the wall of the stomach close to the cardiac end. There was found post mortem a typical atrophic cirrhosis of the liver. Microscopically the distribution of the fibrous tissue was mainly perilobular, but in places the new tissue was extremely cellular and could be seen definitely to be invading the periphery of the lobules. There was also clear evidence of increased bile-duct formation. The spleen was enlarged and showed an increase of its fibrous stroma. The other organs appeared to be healthy. There was no history of any previous illness of any kind except an attack of measles some years previously. There was no evidence of alcoholism or of syphilis, congenital or acquired.

Dr. VOELCKER in his reply stated that he had brought forward his statistics derived from the practice of a general hospital with the object of showing the relative occurrence of cirrhosis of the liver. He pointed out that the chief ages at which cirrhotic livers were found were either in the first two or three years of life or between the ages of eight and 10 years, and then not again until after 25 years. From this he concluded that severe and frequent intestinal catarrh, to which children were so prone, could have little, if any, effect on the production of the cirrhosis. It was known that in enteric fever areas of necrosis of liver tissue, followed by a localised fibrosis, occurred; but again he did not think that this could play any part in the production of a cirrhosis. In the case of children it was certainly true that the microscope revealed a degree of cirrhosis often quite unexpected from naked-eye examination. In his classification of cases increased consistence of the organ had been the requisite condition. He did not share Dr. Lazarus-Barlow's aversion to including cirrhosis as an inflammatory condition, but thought that the conditions in the liver were comparable to those in the kidney and that, in spite of Professor Flexner's observations on the increase of elastic tissue which certainly did not appear to be of inflammatory origin, the increase of connective tissue was more reasonably regarded as an inflammatory process than as a mere hyperplasia, the result of an attempt to fill up the space left by the atrophy of the liver cells. With regard to the form of cirrhosis in children, he had met with both pericellular and perilobular sclerosis, and whilst he considered that syphilis was a frequent cause he did not think that it was the only cause of cirrhosis in children. The new formation of bile-ducts was still, he ventured to think, open to some doubt, but he agreed with Dr. Maxwell that in some cases of congenital obliteration of the bile-ducts there was to be seen a new formation of tubes lined apparently with altered liver cells and containing bile in the lumen. In view of the often quite unexpected occurrence of cirrhosis of the liver in the post-mortem room he thought that it was very necessary to hesitate before ascribing a causal relationship to factors such as an appendicitis or a remote suppurating focus which happened to be present at the same time. It was clear, however, that the pathology of cirrhosis of the liver must still be the subject of investigation by experiment and by observation.

OPHTHALMOLOGY.

THURSDAY, AUGUST 2ND.

Dacryo-cystitis.

Mr. KENNETH SCOTT (London) described a case of Dacryocystitis Aggravans which occurred in a woman, a native of Upper Egypt, who came to him with double dacryo-cystitis which on the left side had attained an enormous size and resembled a malignant tumour of the face. He opened it and evacuated a large quantity of pus and mucus. The patient recovered and in five weeks she was quite well.

Leuco-sarcoma of the Iris.

Mr. W. WATSON GRIFFIN (Brighton) related a case of Leuco-sarcoma of the Iris which occurred in a young woman, aged 19 years. In the left eye there was a growth visible in part to the naked eye through the pupil which pushed forward the iris at the lower and outer side. The lens was displaced inwards and was partially opaque. Mr. Griffin diagnosed a malignant growth and excised the eye. On examination it proved to be a leuco-sarcoma with very marked hyaline changes. He thought that in a case treated so early as this the prognosis should be good. The points of chief interest were the age of the patient (most cases occurring in later life), the extensive hyaline changes, and the dense white appearance.

Lacrymal Obstruction.

A discussion on Lacrymal Obstruction was then opened by Mr. G. A. BERRY (Edinburgh) who referred to the great divergences of opinion held by surgeons as to the best method of treating this affection. He was inclined to think that there was a great tendency to over-treat these cases, and this was due to the common belief that the cause of nearly all cases was obstruction in the nasal duct, whereas in reality it was catarrh of the sac and duct. He condemned the use of large probes as these frequently caused a stricture at the opening into the sac, and this was especially likely to occur when the lower canaliculus had been slit. He preferred in nearly all cases to slit the upper one, as the direction of the channel thus made lay more in a line with the duct and there was consequently less stretching at the mouth of the sac and less laceration of the surrounding parts when a probe was passed. Owing to the fact that removal of the sac generally produced but little epiphora it was obvious that faulty excretion was not the chief cause of the trouble, which was probably due to hyper-secretion of tears caused by an irritation which originated in the sac and possibly in the duct also. In early cases Mr. Berry advocated slitting the upper canaliculus and then probing at intervals of a fortnight or longer, and usually three or four probings were sufficient if the case had come under treatment early. As a rule syringing was unnecessary except in those cases in which the sac was over-distended and then this, followed by pressure over the sac, was very useful. Should an abscess develop this was best treated by opening one or both canaliculi or if necessary opening it on the cheek. In conclusion, Mr. Berry advised early interference in catarrhal conditions—viz., by slitting the upper canaliculus into the sac and then probing at not too short intervals with one of a medium size. In dacryo-cystitis free incision with good drainage was usually indicated; this must be followed by opening of the canaliculi and in some cases by probing at fairly long intervals. In chronic cases, or those frequently recurring, complete removal of the sac was probably the best treatment. Large probes, frequent probings, and the use of styles were in his opinion to be avoided, while removal of the lacrymal gland or any portion of it was altogether uncalled for.

Dr. E. H CARTWRIGHT (Maidstone) said he avoided as far as possible slitting canaliculi, as it caused needless damage and impaired their function. In advanced cases some could be cured by small probes, while for others gold styles were necessary. He thought that syringing was useful, but he had never seen any advantage arise from the use of hollow styles nor had he ever seen a case in which it was necessary to remove the lacrymal gland.

Mr. KENNETH SCOTT in cases of chronic inflammatory thickening preferred to use rather large probes and the syringe. He thought that lead styles were the best and he had never seen harm arise from slitting the canaliculus.

Dr. STCLAIR THOMSON (London) approached the subject from the standpoint of a rhinologist and in the cases he had examined he had not found any disease of the nose to account for the trouble, though he thought that the primary infection of the duct and sac might come from it. He showed a drawing of a section of the nose to illustrate the large diameter of the nasal end of the duct and also the large space between the inferior turbinate bone and the outer wall of the nose.

Mr. E. D. BOWER (Gloucester) thought that over-treatment was responsible for much that was unsatisfactory. He never used styles and very seldom probes. In acute cases he considered the best treatment was to let the pus out and allow the case to quiet down, but if this failed he preferred to dissect out the sac.

Mr. ERNEST CLARKE (London) thought that simple cases were best treated by dilating the canaliculus and syringing. He strongly condemned the use of large probes, but in cases of stricture he recommended the slitting of the lower canaliculus and the removal of its ocular surface so as to accommodate a nail-headed gold style.

Mr. RICHARDSON CROSS (Clifton) saw no harm in slitting the canaliculus and in severe cases he opened both. If a stricture existed the probe must be used, but he thought that there was no advantage in using large ones.

Mr. SYDNEY STEPHENSON (London) was convinced that in difficult cases there was nothing so good as large probes, and he preferred to dilate rapidly with Theobald's probes, the largest being four millimetres in diameter. Mucoceles in new-born children usually yielded to pressure over the sac and evacuation of its contents.

Mr. E. E. MADDOX (Bournemouth) recommended the attachment of a simple nipple to the nozzle of a Weber's syringe for the injection of cocaine. When a style was indicated he advised the use of a soft one, such as the end of a fine silk catheter, which should be worn for a few days before placing a permanent metal one in the duct.

Mr. H. C. ENSOR (Cardiff) in severe cases dilated rapidly under an anæsthetic with Couper's probes and then placed in a lead style.

Mr. H. WORK DODD (London) drew attention to the importance of attending to the general health.

Remarks were also made by Mr. C. BLAIR (London) and the PRESIDENT (Dr. W. A. BRAILEY of London).

Mr. BERRY, in reply, stated that he had never seen anything but harm arise from the use of large probes.

Cerebral Tumour with Optic Neuritis.

Mr. ERNEST CLARKE read notes of a case of Cerebral Tumour with Optic Neuritis in a man, aged 36 years. The right disc showed post-neuritic atrophy while the left was a typical choked disc with 3 D. of swelling but no hæmorrhages. The existence of a tumour in the left frontal lobe was diagnosed. As the patient became rapidly worse the skull was trephined by Mr. Arbuthnot Lane. The brain bulged greatly when the tension was relieved but the patient died the next day. At the necropsy the tumour was found where it was expected and it proved to be a psammo-glioma.

Some Forms of Optic Nerve Disease.

Dr. A. FREELAND FERGUS (Glasgow) read a paper on Some Forms of Optic Nerve Disease, probably of sympathetic origin, and related five cases in which injury to one eye was followed after a few weeks by contraction of the field of vision in the other. This contraction was always accompanied by a diminution of the visual acuteness. In only one of the cases mentioned was there anything at all resembling an ordinary sympathetic ophthalmitis. Dr. Fergus urged that in all cases of injury to one eye a close watch should be kept on the condition of the optic nerve of the other. This was to be done, not merely with the ophthalmoscope, but also by the constant examination of the field of vision and of the minimum of light sense. These two functions depended in part on the healthy condition of the optic nerve, and defects in them often showed lesions of the optic nerve before they could be detected with the ophthalmoscope.

The PRESIDENT asked if tension as a possible cause of failure of vision had been excluded.

Remarks were also made by Mr. CROSS and Mr. BERRY.

Dr. FERGUS, in reply, said that he had carefully eliminated tension as a cause of failure. He thought that possibly the onset of sympathetic ophthalmia might be predicted by observations on the field of vision.

Mr. E. E. MADDOX demonstrated a Stereoscope for the exercise of eyes after operations on the muscles, in which each eye could be shut off from sight by small screens worked by electro-magnets inside the instrument by the surgeon. He also showed some new Needles with Round Holes which could be threaded more readily than those of the ordinary pattern. For advancements he had had made some silk sutures coloured green and black.

DISEASES OF CHILDREN.

WEDNESDAY, AUGUST 1ST.

After the discussion on Pneumonia in Children which was introduced by Dr. NESTOR TIRARD, and reported in THE LANCET of August 11th, p. 449, Dr. JOHN THOMSON (Edinburgh) read a paper by himself and Dr. A. LOGAN TURNER (Edinburgh) on

The Causation of Congenital Stridor.

This paper was listened to by a considerable number of members from the Laryngological Section.

Dr. JOHN THOMSON said that he had hoped to illustrate the lecture by lantern slides. But as that was not possible, specimens of the larynges would be shown and stereoscopic slides handed round. He then described the onset soon after birth of the stridor and the character of the breathing and he discussed the various causes to which the symptoms had been attributed—adductor spasm, enlarged thymus, and the soft collapsable structure of the larynx in infants.

The site of the stridor was at the upper aperture of the larynx, in the larynx, or at the level of the thymus gland. The peculiarities of the larynx and of respiration in young infants were then noticed. As just now said the structure of the larynx in infants was softer and much more collapsable than it was in adults, so that with any sudden drawing in of air into the larynx the upper aperture changed to a slit, becoming much narrower from side to side. He then described the experiments on which the paper was founded, which showed very striking changes of the same character as just described, the sides of the upper aperture being sucked in together, the epiglottis drawn down, and the aryteno-epiglottidean folds met in the middle line. The respiration of infants was peculiar in rhythm and force. He gave an account of the conformation of the larynx in congenital stridor. The sounds were laryngeal, not in the pharynx, as the stridor persisted when the nostrils were closed and the tongue was depressed. In some cases of congenital stridor no enlarged thymus was found, and in cases where the gland did press on the larynx the stridor was expiratory. The sound was made in the larynx proper, and partly by the aryteno-epiglottidean folds. It was due to change of form (habitual) owing to the constant sucking in of the upper aperture of the larynx, a process strictly analogous to the formation of pigeon-breast. It was also a disturbance of respiratory coördination. It was not due to adenoid vegetations.

Dr. LOGAN TURNER showed an interesting set of specimens and a series of stereoscopic views of the experiments on the larynx, and comparative studies of infantile and adult larynges. One specimen showed persistence of the infantile type in an adult larynx.

The PRESIDENT (Dr. FREDERICK TAYLOR of London) briefly introduced the discussion on the paper, suggesting that years ago the cause of congenital stridor would have been paralysis.

Dr. P. MCBRIDE (Edinburgh) objected to the character of the experiments on a flaccid larynx. He thought that irritation of the adductor centre was the condition of congenital stridor, thus somewhat analogous to laryngismus stridulus.

Dr. J. DUNDAS GRANT (London) detailed a case where the stridor was incessant even under chloroform and the epiglottis was seen to be depressed. When this was lifted up the stridor disappeared. This at all events was one definite cause. In other cases possibly congenital malformations caused the stridor.

Dr. H. L. LACK (London) thought that it was impossible to have spasm so continuous as the stridor was. He considered that it was more due to stammering with the larynx, especially as it came on very soon after birth. He also did not place much confidence in the experiments related.

Dr. H. TILLEY (London) quoted three cases and agreed with the view of a congenital weakness of the upper aperture of the larynx. Adenoids or other sources of irritation had nothing to do with it.

The PRESIDENT, though he gave up belief in a paralytic origin of the stridor, was not inclined to adopt a spasmodic theory.

Dr. THOMSON, in reply, defended his and Dr. Turner's experiments. He considered that congenital stridor was an acquired functional defect.

Dr. TURNER also briefly replied.

THURSDAY, AUGUST 2ND.

Lateral Curvature of the Spine.

Mr. CHISHOLM WILLIAMS (London) read a communication based on the notes of nearly 500 consecutive cases of Lateral Curvature of the Spine. There was distinct lateral curvature in all and no cases of simple weak back were included. The chief period for the appearance of lateral curvature was from 16 to 20 years of age. From one to six years there were 35 cases; from six to 10 years there were 68 cases; from 10 to 16 years there were 121 cases; from 16 to 20 years there were 175 cases; and over 20 years of age there were 105 cases. He then briefly enumerated the various causes, such as heredity, rickets, and rheumatic arthritis. There were 131 cases of flat-foot among the lateral curvatures. One patient had had rickets and had three relatives (closest possible) with lateral curvature. The right dorsal convex was the most common curvature found. There were five triple convex cases. In 101 cases there was constant pain or backache. In 19 cases the Swedish movement cure had been practised with unfortunate results. In all cases under 25 years of age some improvement was manifested on treatment. The patients' general health was improved by hypophosphites and cod-liver oil. The spines were straightened by mechanical pressure. This pressure must be kept up. Mr. Williams then alluded to the apparatus or splint, as he preferred to call it, in use at the City Orthopædic Hospital. This had the special advantage of giving a certain amount of play to the muscles of the back while supporting the spine and not letting it go back into a worse position. It could also follow up any improvement by being braced up to it. Under five years of age a leather or gutta-percha splint was quite sufficiently strong. Special muscular exercises, massage, galvanism, &c., all came under review. To be successful in these cases required the combined willingness and coöperation of parent, friend, patient, and surgeon.

Mr. E. NOBLE SMITH (London) regarded the pathological conditions which lay at the back of these deformities as of great importance. In one class the deformities were purely mechanical, such as those due to trades and occupations and the other pathological conditions. Rickets was responsible for a considerable number of cases. There was also an undue softness of bone and tissues in many of these cases. This was an old opinion, but recently attention seemed to have been fixed almost entirely on the weakness of the muscles, and so muscular exercises were so largely prescribed to cure this muscular weakness. All adaptations of muscular exercises should be accurately carried out and the treatment should be directed in a perfectly scientific manner. Mr. Noble Smith emphasised the need there undoubtedly was for more systematic teaching on these subjects in the medical schools and dwelt on the great importance of prophylaxis, which would help to prevent the development of many of these cases.

Mr. CHISHOLM WILLIAMS gave an account of an interesting case of flat-foot suddenly commencing in a cyclist who had ridden for several years. He was racing to Brighton and back and when half-way home his feet gave way completely. There was a great deal of swelling underneath the feet and when this subsided they were typical cases of flat-feet. The feet were put up in plaster-of-Paris for five weeks and they recovered absolutely. He protested against the far too common practice of instrument-makers treating cases of spinal curvature. He gave details of a case which had been sent to him by a medical man who had had it under his observation for three years, during which time it steadily grew worse, and he said he had been fighting against the use of an instrument all that time.

Mr. W. GREEN (Portsmouth) asked about the causation of a projection often found at the junction of the two curves of lateral curvature.

Mr. E. MUIRHEAD LITTLE (London) discussed the causes of scoliosis; he was sceptical as to whether it was ever produced by shortness of one leg, &c. He had not noted any frequent association with flat-foot or knock-knee. It was so difficult to get details of results so as to investigate the best mode of treatment. He then dealt with the use of supports and proper exercises.

The PRESIDENT asked for information about fencing, whether it had a good or bad influence with regard to lateral curvature which it had been charged with producing. He also asked how heredity came in among the causes of lateral curvature.

Mr. JACKSON CLARKE, after thanking the meeting for his reception in the chair and congratulating it on the discussion, said that the prominence at the junction of the curves of lateral curvature sometimes appeared before the curves were much marked and caused some difficulty in diagnosis. There would be, however, no rigidity which would take it out of the tuberculous angular curvature, and no pain and rigidity, which would differentiate it from the swelling occasionally met with in rheumatic arthritis. The pathological condition generally of these cases of deformity was slight rickets. He quoted a case of typical flat-foot due to rickets which was cured by a judicious alteration in diet. He drew attention also to the type of instrument to be used in the treatment of lateral curvature; this helped the muscles and directed their action. Fencing, he considered, did no harm in strong healthy children. Scoliosis would not be inherited, but a tendency to it was frequent.

Mr. CHISHOLM WILLIAMS briefly and warmly again defended the use of the apparatus used at the City Orthopædic Hospital.

PHARMACOLOGY AND THERAPEUTICS.

WEDNESDAY, AUGUST 1ST.

Treatment of Internal Hæmorrhage.

Dr. WALTER G. SMITH (Dublin), having delivered his presidential address—an abstract of which was published in THE LANCET of August 4th, p. 369—proceeded to open a discussion on the above subject. He observed that few cases of hæmorrhage from the lungs, bowels, or kidneys were in themselves fatal or imminently dangerous. Patients died after hæmorrhage but not often from it (S. West). Many attacks of hæmorrhage ceased spontaneously if only let alone, hence drug-treatment of hæmorrhage was often superfluous and sometimes mischievous. The efficacy of local styptics was undoubted and their *rationale* was quite simple. Gallic acid, however, was devoid of local steptic power, and tannic acid was excreted partly as alkali-tannate and partly as gallic acid, neither of which coagulated albumin or constricted blood-vessels, hence tannic acid was useless as a remote hæmostatic. The most rational treatment of, say, a serious case of hæmoptysis consisted simply in mental and bodily rest, the administration of morphine, and free evacuation of the bowels.

Dr. WALTER E. DIXON (Cambridge) said that in consequence of the feeble constricting power of the pulmonary vaso-motor system, as compared with that of the body generally, all general vaso-constrictors tended to cause dilatation of the pulmonary vessels. As regarded suprarenal gland extract he had found the tablets to exhibit active properties, but not the solutions. He recommended the use of this drug in the arrest of hæmorrhage from gastric ulcer. Among other drugs employed sometimes in the arrest of bleeding the speaker referred to chloride of calcium, which, according to some authors, accelerated coagulation. This observation he had been unable to confirm. Citric acid, moreover, though in the same category, undoubtedly prolonged the period up to coagulation.

Dr. W. ESSEX WYNTER (London) referred to the employment of gelatin administered subcutaneously in sterilised normal saline solution up to a strength of 5 per cent. and a maximum quantity of 250 cubic centimetres in cases of continued hæmorrhage, and as a precautionary measure before undertaking operation on specially vascular organs or in "bleeders," as suggested by the efficacy of this method in favouring coagulation in sacculated aneurysms by Dr. Lancereaux and Dr. Paulesco.

Dr. ERNEST KINGSCOTE (London) spoke of calcium chloride rather as a vaso-motor dilator than as a constituent of the Nauheim salts, and mentioned the excitement of local and general peripheral dilatation as useful in checking internal hæmorrhage.

Dr. LIVEING FENN (Colchester) referred to the value of suprarenal extract in constricting the vessels and cited a case of exophthalmic goitre so cured. He considered that the drug steadied the heart by bracing the peripheral circulation.

Dr. R. MURRAY LESLIE (London), confining his remarks to the treatment of hæmoptysis, described the method adopted at the Brompton Hospital, the indications being to lower blood-pressure and heart-action by absolute rest, morphine, and by reassuring the patient. He also recommended that the patient should be turned on to the affected side during the attack so as to prevent, as much as possible, regurgitation of blood into the sounder lung.

Professor C. R. MARSHALL (Cambridge) referred to the action of tannic acid in hæmaturia and cited one instance in which clots succeeded liquid blood in a case of hæmoptysis treated by calcium chloride in 10-grain doses.

Dr. A. REEVE MANBY (East Rudham) referring to the practice of Mr. T. H. Morse of Norwich, said that when he was called upon to operate for the relief of severe internal hæmorrhage he administered 15 ounces of hot water by the mouth and by the rectum and injected 10 ounces of saline solution and subsequently operated under a local anæsthetic.

Three papers followed on the Chemistry of the Jaborandi Alkaloids (by ProfessorH. A. D. JOWETT, D.Sc.), the Action of Extractum Jaborandi Liquidum B.P. (by Professor JOWETT and Professor MARSHALL), and the Pharmacology of the Jaborandi Alkaloids (by Professor MARSHALL). These papers described most interesting investigations into the nature and action of the alkaloids of jaborandi, and displayed particularly the variability of the different preparations, both as to the quantity and nature of their active principles, the conclusion being that nitrate of pilocarpin was really the only efficient and suitable constituent and should be prescribed in preference to any preparation of the leaf.

Dr. ERNEST KINGSCOTE read a paper on the Treatment of Asthma and Hay Fever.

THURSDAY, AUGUST 2ND.

Serum-therapy.

Mr. T. J. BOKENHAM (London) opened a discussion on this subject, touching on the various diseases which could be modified or prevented by the use of antitoxins, and specially dwelling upon some favourable results of the method in checking outbreaks of diphtheria. The remedy should be applied early and in large doses. He had used 280 cubic centimetres of anti-diphtheritic serum in four days in one case apparently moribund.

Dr. F. W. FORBES ROSS (London), on the other hand, quoted an outbreak among the Royal Fusiliers in the Tower which had been equally abruptly checked by isolation and ventilation without the aid of serum, the instances in which a pure cultivation of the Klebs-Löffler bacillus occurred being extremely mild, contrary to general experience. He had had a similar experience in an outbreak of measles and also in erysipelas with pneumonia. In the latter anti-streptococcic serum appeared to abort the pneumonia, but exerted no good influence on the erysipelas.

Dr. J. HADDON (Hawick) dwelt on the preventive power of anti-diphtheritic serum, arguing that what cured should also prevent the disease which developed from slight sore-throat to a virulent type under favouring conditions. Owing to only the severest cases being admitted hospital statistics were not a safe guide.

Dr. LORIMER HART (London) recorded the successful use of anti-streptococcic serum in three cases of erysipelas. He strongly advocated the use of appropriate sera in disease.

Diet in the Treatment of Disease.

Dr. HARRY CAMPBELL (London) then opened a discussion on Diet in the Treatment of Disease. In the course of his remarks he gave a sketch of the normal dietary and indicated where departures might be made according to the requirements of different morbid conditions without sacrificing the necessary proportions of the fundamental constituents. Commenting on the great divisions of carnal and vegetable foods the speaker suggested that it was the absence of the so-called extractives from vegetable food which accounted for its unstimulating character, and further attributed to these extractives, liberated from the muscles by action or nerve influence, the states of elation associated with muscular exertion, good tidings, or even the onset of migraine. These extractives, so abundant in most meat extracts, displacing actual proteid, were capable of unlocking energy but not of supplying it. He regarded the absence of fibrous and indigestible matter in over-civilised diet as being responsible for early caries of the teeth, adenoids, and constipation.

Dr. D. SOMMERVILLE (London) referred to the habitual overfeeding at Nordrach and other sanatoria, and gave instances of gain in weight even in progressive disease.

Dr. SARAT MULLICK (London) stated that fat prevented waste of tissue. In febrile cases he recommended the simplest food—milk, diluents, and carbohydrates, so as to build up the body at the smallest cost to the organism and at the same time to flush out toxins. He attached great value to a "dietetic ladder" by which gastric invalids could be raised by degrees to full diet, without undue strain on digestion.

Dr. HADDON likened the disorders of metabolism consequent upon a too rich and stimulating diet to the breakdown of a horse fed too freely upon oats and beans, the remedy being to turn him out to grass. He strongly insisted on the value of vegetarian diet in removing diverse and remote symptoms, especially recurring paroxysms, and instanced cases diagnosed as Ménière's disease and epilepsy as well as migraine so cured.

Dr. W. A. GORE (Whitchurch, Salop), Dr. LINDLEY M. SCOTT (London), and the PRESIDENT spoke strongly against the excess of proteid usually indulged in.

The Treatment of Gouty Eczema.

Dr. G. J. KING MARTYN (Bath) read a paper on this subject in which the following recommendations were made. The diet should be the typical gouty diet, a

minimum of meat, starch, sugar, and alcohol in their most irritating forms and total abstinence from certain articles, such as lemons, strawberries, and some other fruits. The least irritating and the warmest kinds of clothing which would also allow of ventilation were recommended. Wool for this season was bad; a thick cellular form of cotton was the best. He advocated medicinally the free use of saline aperients, such as Carlsbad water, bismuth, and alkalies. The usual gouty remedies and uric acid solvents were of little use. Arsenic should be administered in the dry chronic unirritating forms, antimony in the irritating forms, and morphia whenever acute severe eczema stopped sleep, induced scratching, and wore out the patient. For relief of the intense burning and itching a lotion or ointment containing carbolic acid should be used; for the dry forms an ointment containing liquor carbonis detergens in very small quantity; and for the acute weeping form a dusting powder of equal parts of carbonate of magnesia and Fuller's earth. The idea that all eczema must be religiously kept from water was a fallacy. Warm alkaline baths allayed the itching, loosened the scales and produced hyperæmia and turgescence of the vessels of the skin. The patient should not be hot-packed but carefully dried and powdered. In some cases Dr. Martyn added sulphur water to the natural bath water. All eczema was not so benefited by baths. Roughly speaking in the moist and inflammatory type of the condition baths should not be used. An equable warm climate was best, but never the sea coast.

Dr. J. C. M. GIVEN (Liverpool) objected to the word "gouty" in the title, saying that there was no sufficient ground for attributing this or any other skin disease to a diathesis. The attacks responded to ordinary rather than specific treatment, and were associated with neurotic types and overwork rather than with gout.

The PRESIDENT agreed with this, stating that in Dublin gout was almost unknown though eczema was as common as in this country and responded to the same treatment.

Dr. LIVEING FENN said that few people after the age of 60 years were quite free from metabolic residues due to imperfect oxidation and excretion or the absorption of imperfectly digested matters. A preliminary course of hot salines was essential to successful treatment by the ordinary methods in these cases.

Dr. F. W. TUNNICLIFFE (London) read a paper on the Nutritive Value of Casein (Plasmon) in which he described the method of preparation (a costly one) and the properties of this substance with an account of experiments *in vitro* and *in vivo*.

Dr. LINDLEY SCOTT (London) read a paper on the Preventive Treatment of Oxalate of Lime Gravel and Calculus in which he insisted on the value of magnesia in preventing deposit whether the excess was due to excessive ingestion or to faulty metabolism.—The PRESIDENT, commenting on the paper, said: "No one knows the origin of oxalic acid in the body."

Medicinal and Dietetic Treatment of Heart Failure in the Aged.

Dr. FORBES ROSS read a paper on this subject. He reviewed briefly the conditions met with in dealing with cases of heart failure in the aged, mention being made of the intrinsic cardiac degenerations, parenchymatous and valvular, and of exocardial conditions as met with in the arterial, portal, renal, and cerebro-spinal systems bearing on the therapeutical problems calling for elucidation by means of medicinal and dietary agencies. The result of strophanthus as illustrated and contrasted by cases: (1) failure, without suitable diet; (2) success in the same case, with suitable diet, after digitalis had failed to relieve; (3) the need for nervine stimulants along with the use of strophanthus, especially in cases of cerebral degeneration or in cases of epilepsy; (4) the value and successful results obtained by tonic dietary aiming at the regeneration of the nervous forces; (5) the prolonged tolerance for, and relatively harmless effect of, the lengthened administration of strophanthus on the cardiac, nervous, and digestive systems; (6) the adjuvant actions of other drugs used at the same time, as mercury, nitrates, alkalies, diffusible stimulants, nervine tonics, &c.; (7) success or failure in the use of strophanthus being governed by the absence or presence, untreated or unprovided for, of conditions outside the range of the therapeutic action of the drug, often wrongly blamed as ineffective or harmful; and (8) the peculiar actions and symptoms produced, mainly adverse, by strophanthus when administered in combination with a mineral acid, were severally considered.

LARYNGOLOGY AND OTOLOGY.

WEDNESDAY, AUGUST 1ST.

Intra-nasal Treatment in Ear Disease.

A discussion on this subject was opened by Dr. P. MCBRIDE (Edinburgh), Dr. CRESSWELL BABER (Brighton), and Dr. DUNDAS GRANT (London).

Dr. MCBRIDE divided the subject into (1) the conditions of the ear liable to be affected by nasal changes, and (2) pathological conditions of the nose which might involve the ear. Under the term "nose" the naso-pharynx was also included. It was, he said, generally admitted that many forms of ear disease might be markedly improved by treatment directed to the naso-pharynx; acute otitis media might be arrested by the removal of adenoids; and in chronic non-suppurative middle-ear deafness of children, if there be no complication, such as hereditary syphilis, the effects of this operation were often little short of marvellous. In chronic non-suppurative inflammation of the middle-ear in adults the position was by no means so clear; two types were distinguishable—(1) those in which the anterior and posterior nares were either normal or were somewhat anæmic, with a very sharp differentiation of parts; and (2) those in which there was some congestion of the whole naso-pharyngeal tract including the Eustachian orifices, with perhaps some hypertrophy of the turbinals, deviation of the septum or spurs. The progressive deafness of one type was commonly due to changes in the region of the stapes often associated with a lesion of the osseous capsule of the labyrinth, while the other was ascribed to chronic middle-ear catarrh. In the former it was questionable whether operating on the nose would ever be of benefit; it might do harm. In the latter it was better to operate on a gross nasal lesion causing nasal symptoms and upon a naso-pharyngeal condition if present. Turning to the changes in the nose and naso-pharynx he said it must be a somewhat difficult matter for those who believed that nasal obstruction *per se* was capable of producing progressive deafness to account for its rare occurrence in case of nasal polypus; again, very marked hypertrophic nasal catarrh and stenosis of the nostrils due to changes in the septum frequently existed without marked impairment of hearing. With regard to gross lesions in the naso-pharynx sessile tumours were associated with deafness, but not of the same type as progressive chronic catarrh; with single pedunculated tumours deafness was rarely a pronounced symptom. Speaking of adenoid hypertrophy as a causative factor he said that when a relatively clear space remained between the margin of the adenoid tissue and the Eustachian orifices its removal did not so materially influence the ear, if it be affected, as the removal of a relatively smaller mass stretching right across from one Eustachian orifice to the other. It must be remembered that the veins of the middle-ear returned the blood to a considerable extent by way of the pharynx and that there was a similar connexion as to the lymphatics. It was therefore conceivable that interference with circulation might play an important part in certain cases of deafness from adenoids. In some instances the posterior extremities of the inferior turbinals became very much enlarged and might lead to deafness, but their removal had not in his experience given anything approaching results frequently obtained by operating on adenoids.

Dr. CRESSWELL BABER said that acute inflammation of the middle-ear, whether catarrhal or suppurative, required as a rule no intra-nasal treatment during the attack except careful cleansing of the nose with a saline solution—indeed, any other treatment would be harmful. Exceptions might, however, arise in which obstruction of the Eustachian tube might require immediate intra-nasal treatment. In the chronic cases it was important to inflate the tympanum before any nasal or naso-pharyngeal operations were undertaken to ascertain effects. When inflation improved the hearing the obstruction might be removed with benefit; when repeated inflation had no effect operative treatment was not to be recommended; it might, however, be wanted for other reasons.

Dr. DUNDAS GRANT said that from the frequency with which catarrhal affections of the ear were found in the subjects of nasal stenosis and inversely the frequency with which nasal stenosis was found in subjects of catarrhal

affections of the ears, there was no doubt that there was a great causal connexion between the two conditions. Improvement in the hearing power had been known to follow simply the removal of a nasal obstruction. This connexion did not hold good in the case of dry sclerotic catarrh of the middle-ear, but only in the moist and hypertrophic forms. In some cases of nerve deafness the removal of a nasal obstruction might bring about an improvement owing to the raising of the patient's nerve tone. In the carrying out of the nasal operations precautions must be taken to avoid inflammatory reaction with the risk of setting up suppurative inflammation in the middle-ear.

Dr. HERBERT TILLEY (London) said that intra-nasal operations for the removal of obstructions, slight or severe, in cases of chronic progressive deafness—so-called dry catarrh—were almost invariably failures. They must distinguish between the patient's expression of relief for the removal of nasal obstruction and the effect on the hearing itself. Where, however, the deafness was due to the moister forms of catarrh the removal of obvious intra-nasal lesions and obstructions might relieve the deafness.

Dr. W. JOBSON HORNE (London) said that in a routine examination of the nose and naso-pharynx in cases of deafness it was common to meet with some degree of nasal obstruction or insufficiency. The question to be decided was whether the obstruction was material and if so how it was to be dealt with. Whether the nasal obstruction was material depended in great measure, he thought, upon the width and depth of the naso-pharyngeal space; this, again, depended on the age of the patient. The inferior nasal meatus was on the same level as the orifice of the Eustachian tube. In early life, when the distance between the posterior nares and the posterior pharyngeal wall was still narrow, the inferior meatus was in direct line, and, in fact, almost continuous with the orifice of the Eustachian tube. It therefore followed that intra-nasal lesions were liable to be more important factors in ear disease in childhood than in adult life. After the removal of adenoids in children the intra-nasal obstruction, if previously present, frequently subsided; if not he was in favour of the removal of the child to a more suitable climate. The size of the naso-pharynx in adults he thought explained the absence of deafness in some cases of complete nasal obstruction occasioned by polypi, enlarged turbinals, and deviations of the septum.

Dr. WATSON WILLIAMS (Clifton) considered nasal obstruction as a causative factor in great measure hypothetical, and its treatment of little avail in improving the nasal condition.

Mr. R. LAKE (London) considered that the obstructions concerned the posterior half of the nares and the removal of enlarged posterior ends of the turbinals beneficial.

Dr. HOLBROOK CURTIS (New York) advocated intra-nasal operations in catarrhal and sclerotic cases. He objected to the term "negative pressure" that had been used by previous speakers—he preferred the term "rarefaction." He considered one might as well describe vomiting as negative swallowing.

Dr. HEMINGTON PEGLER (London) thought that it was difficult to draw a definite line between catarrhal and non-catarrhal cases. He had in cases operated upon for removal of nasal obstruction often unexpectedly obtained marked improvement in hearing.

The PRESIDENT (Dr. SCANES SPICER) in reviewing the discussion regretted that no definite conclusions had been arrived at. He admitted the difficulty in what might be regarded as mixed cases, but thought that many cases undoubtedly benefited by intra-nasal treatment and that the treatment could not be regarded as experimental.

Dr. MCBRIDE and Dr. CRESSWELL BABER replied.

THURSDAY, AUGUST 2ND.

The Pathology and Treatment of Toxic Paralyses of the Larynx.

Dr. WATSON WILLIAMS and Dr. JOBSON HORNE opened a discussion on this subject.

Dr. WATSON WILLIAMS said that the term "paralysis" was assumed to imply organic paresis or paralysis of one or more laryngeal muscles, as distinguished from mere loss of voluntary movement, paralysis of cortical origin being excluded. The inquiry extended to laryngeal paralysis resulting from direct bio-chemical influence on the lower neurons and the muscles which they subserve of substances in the blood or tissues, whether due to auto-intoxication, to the toxins resulting from micro-organisms, or to the pathological action of various drugs or other poisonous substances introduced from without. Two distinct possible methods were mentioned by which the laryngeal paralysis might arise:—(1) from the direct application of the toxic substance to the larynx, and (2) from the selective affinity of various poisons in the blood for the laryngeal nerves or their bulbar nuclei. Dr. Williams went on to say that it was remarkable that in true toxic laryngeal paralysis the postici, with few exceptions, succumbed either earlier than, or concurrently with, the adductors of the cords. It seemed probable that the majority of cases of toxic laryngeal paralyses had their foundation in peripheral neuritis. This would afford an explanation of the varying localisation of the paralysis in different territories supplied by the recurring laryngeal nerve. Thus, excluding the purely myopathic paralyses, toxic paralyses were due to inflammatory degeneration of the neuron, that was in its wider sense neuritis, and might be divided into two distinct pathogenic groups. 1. Infective neuritis, commonly occurring in the course of diphtheria, and less frequently observed in typhoid fever, typhus fever, scarlet fever, morbilli, influenza, rheumatism, tuberculosis, syphilis, and pneumonia. 2. Toxic neuritis, most frequently due to lead-poisoning, but also said to have occurred in poisoning by arsenic, copper, antimony, phosphorus, alcohol, atropine, and morphine. The treatment consisted in: (1) general treatment of the infective disease and measures directed to the removal of organic or metallic poisons in the circulation and tissues; (2) intra-laryngeal application of the faradaic or galvanic current, combined with strychnine in large doses by the mouth or into the affected muscles when feasible; and (3) the relief of dyspnœa and threatened asphyxia by intubation or tracheotomy.

Dr. JOBSON HORNE in his opening remarks, confined himself to the myopathic aspect of the subject and detailed the microscopic changes he had met with in the intrinsic muscles of the larynx in persons who had died from diseases known to be at times complicated with paralyses of the vocal cords. Although the pathology of perhaps the majority of these cases of toxic paralysis of the vocal cords might ultimately be found to consist in a peripheral neuritis he considered the changes in the muscles themselves to be deserving of further investigation.

Dr. SAMUEL LODGE (Halifax) reported two cases of Laryngeal Paralysis following lead poisoning. The first case he was unable to follow up. In the second case the voice was recovered perfectly in two months under the faradaic current.

Dr. HERBERT TILLEY narrated a case of Abductor Palsy of one cord following in a few days a septic sore-throat without any clinical likeness to diphtheria.

TROPICAL DISEASES.

THURSDAY, AUGUST 2ND.

Ankylostomiasis.

The discussion on this subject was opened by a paper communicated by Major G. M. J. GILES, I.M.S., who after dealing with the history of the disease gave an account of his researches into the life-history of the free stage of ankylostoma. He believed that he had established the fact that these rhabdites could live and multiply freely in fæcal matter—that is to say, that it was a case of heterogenesis or dimorphism. Major Giles did not enter into the old controversy as to whether the disease in the Assam plantations known as kala-azar was ankylostomiasis plus malaria or malaria plus ankylostomiasis. He himself adhered to the former belief, but Captain Leonard Rogers and Major Ronald Ross were in favour of the latter hypothesis. Major Giles said that he had demonstrated the fact that the full life-history of ankylostoma duodenale was an example of dimorphism. He had succeeded in breeding a sexually mature form in the laboratory. He found the sexually mature nematodes, the females heavy with eggs, which were absolutely identical in form and dimensions with those of the parasitic form, in ordure contained in the small cesspits attached to Assamese houses. The embryos of the parasite slowly died from want of nourishment in clean water. In large fæcal masses at a temperature of from 80° to 90° F. the embryos might develop into free sexually mature worms in four days, but under less favourable circumstances they

took a few days longer. Major Giles had had no difficulty in refuting the criticisms of Dr. Sonsino, who had attempted to cast doubt upon his observations on the grounds "that the organism was rhabdites terricola or other free nematodes," and "that the appearances were really the free form of rhabdomena intestinale." The absence of the anguillula stercoralis (the embryo of rhabdonema intestinale) was carefully noted by Major Giles in each specimen of dejecta used for observation and experiment. He dissented from the view that ankylostomiasis was a harmless affection. He pointed out that a number of observers in Assam stated and believed that because the parasite of this disease was met with in the fæces of healthy persons therefore it was harmless, and that the reduced condition of natives afflicted with ankylostomiasis was to be ascribed to other causes. The power of the parasite to produce a toxin seemed to be most probable.

Captain C. F. FEARNSIDE, I.M.S., communicated a paper entitled "Ankylostoma Duodenale," which contained an account of a careful examination of stools for the ova of the parasite. The observations were made on convicts in the prison at Rajahmundry, of whom 68·1 per cent. were found to be infected by the parasite. Captain Fearnside was of opinion that the presence of ankylostoma was not a primary cause of illness usually, but supervening on malarial cachetic states it was a serious condition. In his experience thymol was not an efficient vermicide. He found that in many cases after dosing the patients with large doses of thymol, varying from periods of 10 to 60 days, as many ova of ankylostoma were met with in the stools as at the beginning of the treatment.

Captain LEONARD ROGERS, I.M.S., communicated a paper upon the Classification and Differential Diagnosis of Ankylostomiasis with Special Reference to the Type of the Anæmia. Kala-azar, according to Captain Rogers, was not ankylostomiasis but malarial fever. The dispute as regarded the nature of the term employed by the natives in Assam to denote a disease attended with a high mortality and styled "kala-azar" had been a long one, but the observations made by Major Ronald Ross went to favour the contention of Captain Rogers as to malarial infection being the genesis of the ailment. In 66 per cent. of healthy Assamese ankylostoma was found, but Captain Rogers thought that 500 worms must be present before they could cause a marked effect. He wished particularly to differentiate between true ankylostomiasis and the fact that a few ova of the parasite were present in the stool. It was possible that 80 per cent. of the inhabitants of large provinces of India were infected in that way, but that did not stamp them as suffering from ankylostomiasis. It was only when "constitutional" effects were apparent that the disease could be held to be present.

Surgeon-Lieutenant-Colonel O. BAKER, I.M.S., in a paper entitled "Ankylostomiasis," recorded his experiences of the disease in Burmah. He found that the Burmese harboured the parasite extensively. In the Maulmain jail he seldom failed to detect the ova of ankylostoma among the prisoners, in cases not only of simple anæmia but also of anæmia associated with specific diseases. In advanced cases of ankylostomiasis the patients appeared to be suffering from extreme loss of blood. That the Burmese should readily acquire parasitic infection of their intestine was little surprising, seeing that they squatted on the floor when eating, that their bowls were set on the floor, and that they ate with their fingers. The acquisition of the ova of ankylostoma by food was therefore very possible, and it was probably by way of food rather than by water that the Burmese acquired the infection.

A discussion of these papers followed.

Dr. PATRICK MANSON (London) related cases of ankylostomiasis which he had seen in Englishmen from the West Indies and from Singapore, and although one of these patients was very ill indeed thymol in adequate doses had an immediately beneficial effect. Dr. Manson considered that thymol should be given in doses of about 30 grains every hour for four hours. Betel nut, so largely chewed in Assam, Burmah, and Indo-China, might, according to Powell, be employed on account of a belief in its prophylactic action against infection by ankylostoma. The Chinese method of allowing nightsoil to accumulate and ferment was probably fatal to ova and the embryos of the intestinal entozoa generally, and in some such way the absence of ankylostoma amongst the Chinese might be accounted for.

Major RONALD ROSS, I.M.S. (Liverpool), stated that he considered Major Giles's observations concerning a rhabditiform stage of the parasite of ankylostomiasis to be sound, and condemned Dr. Sonsino's conclusions. Captain Rogers's estimate of 500 parasites as necessary to cause ankylostomiasis was probably much above the mark, and it was obvious that the number required to produce reaction must vary inversely with the strength of the host. Fifty ankylostomata might destroy a patient already debilitated by other diseases or by starvation.

Mr. JAMES CANTLIE (London) remarked that he had never found ankylostomata or their ova in the stools of coolies in Hong-Kong suffering from beri-beri, but that in Borneo, in 100 consecutive post-mortem examinations on cases of beri-beri, Dr. J. H. Walker had found the ankylostoma in every case.

Liver Abscess.

Colonel KENNETH MACLEOD, I.M.S. (Netley), read a paper entitled "The Management of the Lung Lesions consequent on Liver Abscess." He enforced the principle that in cases of liver abscess complicated or followed by lung lesions the lung required treatment and that the liver ought to be let alone. When once an abscess had burst upwards through the diaphragm and invaded the lung a reparative process was set up in the liver, but the destructive condition proceeded in the lung. Attempts to reach the seat of the primary abscess in the liver would only be attended by failure, and there was no justification for such procedure.

Mr. JAMES CANTLIE read a paper entitled "Sub-hepatic Abscess." According to Mr. Cantlie a sub-hepatic abscess was a collection of pus, due to a lymphangitis, between the peritoneal covering of the liver and the liver substance itself. Mr. Cantlie described the results of investigations which he had made as to the depth to which the needle of an aspirator or a trocar and cannula could be introduced without wounding the inferior vena cava. He stated that in a body with a circumference of 32 inches over the region of the liver the centre of the inferior vena cava was four and a half inches distant from the surface.

Mr. W. JOHNSON SMITH (Seamen's Hospital, Greenwich), in a paper entitled "The Diagnosis and Surgical Treatment of Tropical Liver Abscess," advocated surgical treatment in all cases of liver abscess that had not burst up through the diaphragm or into a neighbouring organ. He found the x-rays likely to be of benefit in estimating the position and action of the diaphragm in inflammatory conditions in the neighbourhood of the liver. He had operated upon eight cases of liver abscess during the last five years by the transpleural route and in a single case by laparotomy.

Staff-Surgeon P. W. BASSETT-SMITH, R.N. (Haslar) communicated a paper upon a case of Abscess of the Left Lobe of the Liver with remarks particularly referring to its amœbic causation. The case was interesting inasmuch as the patient had resided in England for two years. He then developed dysentery, and subsequently a liver abscess was opened in the epigastrium and proved to be connected with the left lobe of the liver. The amœba coli was met with in the pus of the abscess to the exclusion of other pyogenic bacteria. At the necropsy cœcal ulcerations of recent date were found, with pericarditis and an abscess in the base of the right lung, although no direct communication was traceable between the abscess in the left lobe of the liver and that in the lung.

NAVY, ARMY, AND AMBULANCE.

THURSDAY, AUGUST 2ND.

On First Aid and Transport of Sick and Injured in Civil Life in Large Towns.

Surgeon-Major G. A. HUTTON (Leamington) opened a discussion on this subject. Speaking as organising commissioner to the St. John Ambulance Association, he described the primitive methods in vogue previously to the inauguration of the St. John Ambulance Association in 1877. Sir John Furley was the improviser and designer of various stretchers, litters, and horse ambulances. The Marquis of Salisbury in 1890, by command of Her Majesty, laid before Parliament the report of a commission of inquiry as to ambulances in cities of Europe and America. Surgeon-Major Hutton outlined the system in New York, where ambulance work was under the care of the police, with telephone equipment, and the expenses of which were defrayed by the city. In Birkenhead this work was done by the fire brigade with telephone aid, and in Liverpool it was under the police, also with telephone communication, and the expenses were defrayed by the Police Committee of the city council. In Liverpool the conveyance of persons who could afford to pay was done

by private enterprise. The system had won the cordial approbation of Mr. Reginald Harrison who asserted that it had saved many limbs and lives. Surgeon-Major Hutton then outlined ambulance work in various towns in the United Kingdom and stated that the proper persons to undertake ambulance work were the police, as they were on duty by day and night. It was necessary that they should be properly trained and annually inspected. He desired to draw the attention of the British Medical Association to the practical uses of the St. John Ambulance Association as an aid to those coming in constant contact with the sick and injured.

Brigade-Surgeon-Lieutenant-Colonel G. S. ELLISTON, V.M.S.C., V.D., said that it was at the instance of his old friend Surgeon-Major Hutton that he had undertaken ambulance work years ago in civil life. He regretted that even now they were only just at the very beginning, so to speak, of ambulance work in civil life. The police attended classes in many towns but did not go far enough in obtaining higher certificates and too often allowed themselves to become rusty. Continuous study was absolutely necessary as well as frequent practice. The police ought to be paid and not left to do this work in their own time. At Wellingborough civil ambulance work had been put to the test in a terrible railway accident and had triumphantly vindicated its right to existence and encouragement.

The PRESIDENT (Inspector-General BELGRAVE NINNIS, M.D., R.N.) said that ambulance centres should be established in every town. The proper equipment, station, &c., required usually about £100. The inspecting officer in London where stations were fairly numerous on a bank holiday frequently travelled over 60 miles per diem.

Surgeon-Captain J. HARPER, V.M.S.C., also spoke.

On First-Aid in Civil Life.

Surgeon-Major DE ZOUCHE MARSHALL, A.M.R., sent a paper with this title which was read by one of the secretaries in his absence. He classed ambulance workers as "amateurs" and "professionals." The amateurs were usually ladies. The "professionals" were most important and should be carefully selected. Both instructors and pupils should be paid for time spent in learning and teaching. Not every medical fledgling was really able to teach ambulance work who thought that he could do so. Shepherd's "Handbook" should be re-edited by a committee of experts who would also form a school of ambulance instruction in first-aid for surgeons desirous of qualifying as instructors. No medical man should be appointed to instruct who had not a certificate of efficiency. The police should be paid and a third-class certificate ought to carry a grant of threepence per day, a second-class certificate sixpence per day, and a first-class certificate ninepence per day. Other public servants who qualified similarly should be paid at the same rate. In default of the police the St. John Ambulance Association should take the entire ambulance work under its control. All officers of merchant ships which did not carry a surgeon should be instructed in ambulance work. Lock-keepers on canals and boatmen should have courses of instruction on resuscitating the drowned.

Surgeon-Major J. INCE, I.M.S., said that the St. John Ambulance Association originally introduced the first ambulance into London.

Surgeon-Major HUTTON, in replying, said that an ambulance examination should be held with the accustomary inspection of police.

Surgeon-Major T. F. S. CAVERHILL next read a paper entitled:

On Cavalry Ambulance Service.

The salient points of the paper were the following. That the present bearer companies were on foot, therefore they could not keep up with the cavalry. This system had been condemned by experienced cavalry commanders. Major-General Sir Herbert Stewart in Egypt had described this arrangement as "absolutely unsuitable." He had, therefore, improvised a mounted bearer company which did excellent service. Surgeon-General Evatt, in 1881 in Egypt, stated that an infantry bearer company could not keep pace with the mounted men. Lord Morley's committee in 1883 recommended mounted bearer companies. The *British Medical Journal* had said, in noticing the existence of mounted bearer companies in New South Wales, that it was incredible that the same did not exist in the service of this country. Mr. Watson Cheyne had particularly complimented the New South Wales ambulance, without which the Army Medical Department would have been in difficulties. The objections to the present system were (1) tactical, (2) humanitarian, (3) surgical and medical, and (4) administrative. The wounded often hampered the movements of a cavalry general. The *matériel* should be divided into (1) indispensable and (2) reserve. He recommended the following: (1) the addition of a second surgeon to all cavalry regiments in the field; (2) that cavalry ambulances should be specially trained and equipped; (3) that *cacolets* and litters should be provided for the use of all cavalry; (4) a special pattern of light ambulance for cavalry; (5) that the inspector-general of cavalry should annually inspect the cavalry ambulance; (6) that mounted bearer companies should be formed from the Royal Army Medical Corps to act with cavalry and mounted men in the field; (7) that in certain contingencies the *cacolets* and litters of the mounted bearer companies should be made use of; and (8) that experienced surgeons and assistants should be always close in the rear of the fighting-line. The proposals should be considered under two heads: (1) regimental medical aid by trained ambulance men in each regiment, and (2) non-regimental medical aid given by a mounted bearer company of the Royal Army Medical Corps attached for duty to a cavalry regiment.

Surgeon-Major VALENTINE MATTHEWS, V.M.S.C., also contributed a paper entitled, On Cavalry Ambulance Service, based on somewhat similar lines.

The two papers were well received and were favourably discussed by the following gentlemen: Lieutenant-Colonel C. B. MAITLAND, I.M.S., Major E. M. WILSON, R.A.M.C., Surgeon-Major HUTTON, Surgeon-General T. F. O'DWYER, Principal Medical Officer of the Aldershot District, and Surgeon-Major INCE.

Surgeon-Captain F. L. STEPHENSON, V.M.S.C., contributed a paper on the Cycle in the Field for Medical Service. This paper, which was also well received and was favourably commented upon by Surgeon-General O'DWYER, brought the meeting to a termination.

THE ANNUAL MUSEUM.

(*Continued from p. 454.*)

III.—SANITARY APPLIANCES, DISINFECTANTS, &c.

THE decline in the number of exhibits this year was specially noticeable in this section. In particular there did not appear to be any sanitary appliances possessing special novelty, while even the number of disinfectant preparations most commonly presented to view have very sensibly diminished. We are inclined to regard this result as meaning that the choice of a disinfectant is narrowing down to a few well-known ones. The market has been simply deluged with all sorts of new chemical, antiseptic, and disinfectant compounds, each claiming to be more powerful than others hitherto offered. We are glad that this plethora of disinfecting compounds is subsiding, for their great number is perplexing and the medical man knows quite well which antiseptic suits his purpose best and his choice is bound to relate to a few well-known preparations the efficiency of which has been established by practice and bacteriological experiment.

Amongst the best-known appliances which may be correctly described under the category of this section are the many forms of Pasteur (Chamberland) filters exhibited by Messrs. J. Defries and Sons, Limited, of 147, Houndsditch, London, E.C. At their stall were shown an improved cistern filter working without pressure, a laboratory filter for the bacteriological examination of water, and an improved filter for railway-carriages, refreshment-rooms, &c. Photographs and plans were also shown illustrating the application of this method of filtration on a large scale. The exhibit included the Equifex disinfection appliances. A number of interesting hygienic products were shown by Messrs. Paté, Burke, and Co. of 6, Wool Exchange, Basinghall-street, London, E.C. Under the distinctive title of "Petanelle" a wool is obtained which is described as a fibrous derivative of peat possessing important absorbent and deodorant properties. Surgical dressings, aseptic pads, and other sanitary fabrics, and hygienic mattresses and bedding, are made by this firm. The exhibit included "Petanelle" disinfecting powder which is efficient in use and is an excellent deodorant. The "Ronuk" preparations are well worth mentioning in their relation to sanitary application. Ronuk, Limited, of 35, Providence-place, Brighton, prepare a special sanitary "polisher and cleanser" for the floors of hospital wards; it answers

admirably. The exhibit also included a special stain for preparing ordinary deal floors for polishing. Tidman's Sea Salt is well known and the exhibit of Messrs. Tidman and Son, Limited, of Bushell-street, London, E., included a sea soap for use with the salt. The Jeyes Sanitary Compound Co., Limited, of 64, Cannon-street, London, E.C., had an excellent assortment on their stall, chief amongst which were the creolin preparations which are now well established as effective and convenient antiseptics. The exhibit included creolin gauze, creolin plaster, and an interesting preparation known as "lano-creolin." Bandages, absorbent cotton wools, and protective lint were the chief subjects of exhibit by the Liverpool Lint Co. of Mark-street Mills, Leatherfield-road, Liverpool. The "transpirable" wool undervests, body-belts, and chest protectors should be mentioned also amongst the special hygienic preparations of this firm, since these articles of clothing are claimed to allow free evaporation and not to become cold and clammy even under profuse perspiration. The Sanitary Wood Wool Co., Limited, of 26, Thavies-inn, Holborn-circus, London, E.C., had a very interesting assortment of their well-known sanitary wood-wool preparations and appliances. These comprised wood-wool tissue, wadding, pads, sanitary outfits, &c. The exhibit included a very simple form of arm-sling which gives the patient ease, comfort, and convenience while causing a minimum of disturbance during adjustment which may be accurately and readily made.

IV.—SURGICAL INSTRUMENTS AND APPLIANCES.

This section was perhaps better represented than any other department in the annual museum this year and attracted more interest in general. The room set apart for this class of exhibit was quite distinct from the main exhibition, the old museum rooms being found convenient for this purpose. There were, however, a few exhibits coming under this section in the Public Hall. Such, for example, were the surgical appliances of the O'Connor Extension Co. of 2, Bloomsbury-street, London, W.C. This exhibit included the O'Connor patent boot for cases of flat-foot, the O'Connor patent toe-raising boot, and the Clyde patent "Varus" and "Valgus" boots, which are invisible substitutes for ankle-irons. We understand that this company have supplied their patent appliances for use in South Africa. We have already remarked on the ingenuity and excellence of those appliances in particular of this firm which minister to the deformities of the leg and foot. In the exit corridor, which formed a lounge and smoking-room, a great variety of special beds for hospital use were displayed by Messrs. George Gale and Sons of Dominion Works, Birmingham, and Messrs. S. B. Whitfield and Co. of Watery-lane, Birmingham These consisted mainly of the spring bedsteads for use in fractures, &c., designed by the late Mr. Lawson Tait. Atomizers and insufflators were the feature of the stall of Mr. Frank A. Rogers of 327, Oxford-street, London, W. These appliances are excellent in design and produce a very fine spray or dust-cloud, as the case may be. The exhibit also included a number of syringes for hypodermic use and for the spraying of the oro-nasal passages. The Alione Co. of 17, The Broadway, West Norwood, London, S.E., exhibited their special clothing for infants and invalids. These clothes are so made as to be practically in one, so that the infant or the invalid may be laid flat and dressed in a few minutes. Any single part of the body can be uncovered without disturbance. The stall of Messrs. John Weiss and Son of 287, Oxford-street, London, W., was the centre of very general interest since it was simply replete with instruments and apparatus employed in modern surgery. The exhibit included an operation-table with important advantages. A special room was fitted up by Messrs. Weiss as an operating theatre. An exhibit by a local firm consisted of a complete domestic Turkish bath for use at home. The bath comprises really two baths, the one being a cabinet which folds up when not in use, and the other being a shower bath which may be made to give a supply of water at three different temperatures. The manufacturers are Messrs. R. D. and J. B. Fraser, Limited, of Princes-street, Ipswich. Close by were the milk sterilisers of the Aymard Patent Milk Steriliser Co. of St. Matthew's-street, Ipswich. The advantages of these sterilisers are indisputable, since they relate not only to economy and efficiency but to the ease with which the containers may be cleansed. The exhibit also included a simple apparatus for warming food. Special beds adapted for asylum and general hospital purposes were exhibited by Messrs. Billington Brothers of Liverpool. Bed-tables and bed-rests of very useful design and construction were also exhibited by this firm. Aseptic articles of hospital furniture, together with a very large assortment of aseptic minor and general operation instruments, were the feature of the admirably planned stall of Messrs. Down Brothers of 21, St. Thomas's-street, Borough, London, S.E. The Longford Wire Co. of Warrington showed their patent wire as applied to a mattress and to cycle saddles. The quality of the wire of the saddles may be understood from the fact that a single wire of a thickness not much greater than cotton will sustain the weight of 420 pounds, while the patent wire mattress will carry one ton without giving way. Mr. William F. Offord of 2A, Regent-street, Cambridge, showed his special orthopædic appliances. Amongst these were an apparatus for the prevention of recurring displacement of the internal semilunar cartilage of the knee, an apparatus for fixing the hip-joint in tuberculous, and one also for fixing the knee-joint in early tuberculous, disease. An improved method of applying the faradaic current for therapeutic purposes was shown in the Hodgkinson electro-neurotone. It is said that by means of this handy little instrument the change of polarity may be effected without the patient perceiving it, while there is rapidity of alternation. Mr. J. S. Montague of 101, New Bond-street, London, W., showed a number of important improvements in amputation instruments, saws, bone drills, &c., besides also some new apparatus for the administration of chloroform, "gas," or ether. We have already described the "Sentinel" patent domestic milk steriliser which by an ingenious arrangement depending upon the fusion of a metal at a comparatively low temperature works automatically, so that the temperature need never exceed a certain point and the taste of the milk does not suffer. The instruments on the stall of Messrs. Arnold and Sons of 26, 30, and 31, West Smithfield, London, E.C., were inspected with interest by the medical visitors. The exhibit included modern instruments for the surgical treatment of the throat, eye, ear, and nose, recent patterns of amputation and minor operation instruments, and certain improved forms of sterilisers and aseptic cabinets. The x ray apparatus of Harry W. Cox, Limited, of 10, 11, and 28, Cursitor-street, Chancery-lane, London, W.C., are now well-known as admirably adapted to medical and surgical requirements. This firm are the actual makers of the induction coils, and every part is of English make which enables them to guarantee the coils for two years against breaking down. This firm have supplied the hospital ships employed in the present campaign in South Africa with x ray apparatus, and the interesting demonstration given by Mr. Mackenzie Davidson at the meeting depended upon the success and efficiency of the coils of this firm. Besides many surgical instruments of modern design the Surgical Supply Association of 35, Market-street, Manchester, showed an admirable series of specimens of certain concentrated drugs. Amongst these should be mentioned as of special excellence a series of suppositories with various medications. Messrs. Browne and Sayer of Old Swan Chambers, Upper Thames-street, London, E.C., introduced to the notice of the visitors a cheap milk steriliser for infants. This simple apparatus supplies a distinct want; it is effectual and within the reach of the not well-to-do. A very useful bed for bed-fast persons and others was shown by the Aseptomechanical Bed Co., Limited, of Geneva, Switzerland. The bed provides for the comfort of the patient during any attention that may be required. The patient need not be moved and by means of a handle he can be easily raised although he may be of exceptionally heavy weight. In a room at the entrance of the old museum rooms the Dowsing Radiant Heat Co., Limited, of 24, Budge-row, Cannon-street, London, E.C., showed a model of their radiant heat and light bath. As is well known the principle of this bath depends upon the emission of both heat and light rays from the incandescing carbon filaments of electric lamps of certain design. The apparatus has been used chiefly for the treatment of rheumatism, but it has also been employed in anæmia, eczema, and disturbances of the circulation.

WATER-SUPPLY OF DURSLEY. — The Local Government Board have sanctioned the application of the Dursley (Gloucestershire) Parochial Board for permission to borrow £4500 for the purpose of carrying out the water-supply of the district.

THE THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE,

HELD AT PARIS, AUGUST 2ND—9TH, 1900.

THE CLOSING CEREMONY.

(FROM OUR SPECIAL COMMISSIONER.)

THE closing ceremony was brief but effective; it barely lasted more than an hour. On this occasion the great hall of the Sorbonne was well filled and the proceedings were enlivened by a military band. Professor Albert, of the Vienna Faculty of Medicine, read a paper on the Architecture of the Bones of Men and of Animals. Unfortunately the band had been allowed to occupy the seats generally reserved for the press. These are placed near the desk from which such papers are read, and the journalists had consequently to go to the other end of the broad platform. The soldier-musicians were doubtless much edified by what the learned professor said, but those whose business it was to note down his observations heard hardly a word. Professor Lannelongue, President of the Congress, then delivered a somewhat lengthy speech which was intended to review and to close the labours of the Congress. He insisted on the great fact that science did not belong to any particular nation but that the learned and the wise of all countries united to promote its interests, for these were the interests not of individuals but of humanity. Further, the Congresses were the means of enabling a vast concourse of persons to judge a nation not from reading and hearsay but from actual experience. By holding the Congresses in different countries the scientific men of the world thus acquired extensive practical and cosmopolitan knowledge. Everything went to show that this was above all the century of science and freedom. Science had become the necessary foundation of almost every calling in life; but it was impossible to study science without having the fullest freedom of investigation. Thus science was useful not only by reason of the direct benefits derived therefrom, but also because it trained the mind to that form of independent critical research which could not exist but where freedom flourished. Such, I take it, was the general drift of Professor Lannelongue's remarks, of which the above is a summary and not the precise words. He then went on to deal with the great material difficulties of holding Congresses which brought together several thousands of members. Considering that it was almost impossible to entertain satisfactorily so many guests and to debate fully when there were so many speakers and so little time available, it had been suggested that the Medical Congress should be split up into numerous smaller Congresses of specialties. Doubtless specialties had helped to produce progress; but it was a mistake, a fundamental mistake, to believe that their successes were due to anything else than general knowledge of the entire subjects from which alone the special study of a particular branch could be safely undertaken. A specialty could not be compared to a healthy plant. It was not the trunk—it was but a branch from the great tree of knowledge. Separate that branch from its trunk, plant it by itself, and it would soon wither. Therefore, and if only to maintain this great teaching, the Medical Congress should remain entire and complete. He hoped they would continue to hold the Congresses as they had done in the past, the entire profession united, happy to meet again in other countries old friends and familiar faces. Consequently he did not say *adieu* but *au revoir*.

As Professor Lannelongue concluded with these words the clarions blared out and the band struck up a quick march suggesting the hurrying off to the next Congress. But it had not yet been decided where the next Congress would be held. Therefore when the band concluded Professor Julian Calleja rose. He spoke in Spanish, and soon, in response to the sonorous and dignified tones of that magnificent language, the applause began to ring out in all parts of the hall. Few persons present understood Spanish, but a knowledge of Latin helps a good deal, and it was soon gathered that the speaker was insisting on the honour he hoped the Congress would confer on Spain—how the people of that country would enthusiastically respond, how eager they were to imitate other nations and to honour the men of science of all countries. He was also particularly affected by the delicate attention shown by the band, for, by playing the national Spanish hymn, it had, as it were, proclaimed the hope that the next Congress would be held in Spain. When Professor Calleja concluded he was greeted with applause that was renewed over and over again, and he had to rise and bow his acknowledgments. Indeed, the Congress seems to have terminated in a demonstration in honour of Spain; for it was announced that the prize of £200 offered by the town of Moscow during the last Medical Congress to the author who should have produced a work contributing most benefit to the progress of medical science had just been allotted to Señor Ramon y Cajal, the learned professor of histology and pathological anatomy at Madrid. Dr. de Cortéjarena of the Madrid Academy of Medicine spoke in support of the proposal that the Congress should meet at Madrid in 1903 and to express his gratification at the marks of approbation emanating from the members of the Congress. He only said a few words, and those in French, and as there was no amendment or counter proposal Professor Lannelongue rose and declared that the labours of the Congress were concluded but that it would meet again in three years at Madrid. The band then played the members of the Congress out of the hall and thus a very busy week's work came to an end.

THE GREAT FÊTE GIVEN TO THE FOUR MEDICAL CONGRESSES BY THE PRESIDENT OF THE FRENCH REPUBLIC.

On August 10th, in the afternoon, one of the finest fêtes that has ever taken place at the Palace of the Elysée was given by M. Loubet, President of the Republic, in honour of the Medical Congresses and of the Congress of University Students. The International Congress of Hygiene concluded its opening ceremony that same afternoon as early as possible so as to enable its members to attend. The International Congress of Medicine having terminated the day before its members had no difficulty in reaching the Elysée in good time. The invitations to the Elysée which had been given to the members of the International Congress on Medical Ethics or Deontology and of the Congress of the Medical Press for the receptions which had been postponed on account of the death of the King of Italy, were made available for this day. Altogether it is said that 10,000 invitations were issued; and after my experience of a similar gathering at the Palace of the Luxembourg it was not without some apprehension of a possible crush that I made my way to the Presidential residence. For more than a quarter of a mile away from the Elysée the carriages were stopped and made to form in single file, advancing only a few steps at a time. Most of the occupants were soon tired of this slow and weary process, and as the pavement was quite dry they left their carriages or cabs and proceeded the rest of the distance on foot. Great, however, was their surprise to find that the gates of the Elysée were barred and that the street was thronged with guests who were unable to gain admittance. Though it was only half an hour after four, which was the time fixed, the number of people inside was already greater than could be managed. Still we might at least have been admitted into the yard instead of waiting in the street to the interruption of all traffic. After a while the reason for this exclusion became apparent. Soldiers appeared on the scene, an effort was made to separate the crowd, and we were told to make room, for cavalry were expected. But the pressure from behind was so great that we could not make room and in the midst of the confusion up dashed the Shah in an open carriage surrounded and followed by cuirassiers. Their bright helmets, swords, and breastplates glittered above us, their horses plunged in our midst, and we fought, scrambled, and struggled to get out of the way. The ladies screamed, the men shouted "*Assez! assez!*" by which presumably they had had enough of such a military show. Others, having failed to perceive the Shah's carriage, thought that the troops had taken us for a riotous assembly and were about to charge. Their alarm was consequently intense and they attempted a stampede. Certainly it was not necessary to have brought the whole heavy cavalry right through the crowd of guests who thronged the street from wall to wall. The greater part of the escort might have remained in the rear of the Shah's carriage which alone entered the yard of the Elysée, instead of riding past the entrance and right through the crowd from end to end. Of course, some of the horses

were frightened by the cries of terror and of protest that were raised and began to plunge about, thus greatly increasing the danger of accidents. The indignation evoked by this rough treatment was, however, soon appeased when a few minutes later the crowd were at last admitted into the Elysée, in small batches at a time. There was a terrible squeeze at the gateway, but, however great the discomfort and disorder in the street, once within the Palace the crowding ceased and perfect order prevailed. The handsome saloons of the ground floor, the walls bearing rare and beautiful tapestry, were all thrown open, and after strolling slowly through them the guests reached the great lawn and gardens behind.

It seemed as if these grounds had been laid out on purpose for the day's performance. At the farthest extremity a stage had been built, with a graceful colonnade on each side, and behind it majestic trees formed a natural enclosure. The lawn also is not flat, but concave, so that with rising ground on either side it was easy to obtain a view of the stage. Down the centre a broad carpet had been placed for those who objected to stand on the grass. At the foot of the stage there were the entire orchestra of the Grand Opéra, and then a certain number of chairs for the President, the Shah, and their retinues, and for some of the guests who arrived early enough to secure these seats. The performance had been organised for M. Loubet by M. Gaillard, the Director of the National Academy of Music, and some actors from the Comédie Française and the ballet corps of the Grand Opéra. The actors before each of the four acts recited verses which contained the argument or explanation. Through being detained so long outside I was too late to see the first act. It represented the dances of the barbarians who first inhabited Europe. This was followed by a beautiful scene of the blue Mediterranean dominated by the Acropolis. On the stage, in classic Greek drapery, the high priestess and her attendants danced with slow rhythm in honour of the pagan gods. Both from the artistic and, if not from the medical, at least from the psychical point of view, this was by far the most interesting act. Gradually the Pythoness is overcome by the fumes from the altar, by the rhythmic movements, and by the steady gaze of two slaves who follow her with slow music played on a sort of clarionet, and at last she falls insensible on the ground. From this, the cataleptic stage, she gradually emerges, and then her movements are quite different: they are marked with hesitation and expressions of surprise; she shades her eyes the better to see the visions by which she is surrounded, and then stoops forward to whisper to her attendants the oracles which the entire ceremony is intended to provoke. The next act represented French dances such as the gavotte and the style of dancing that preceded the Great Revolution. Coming immediately after the reproduction of the rites of the Greek oracles, the following lines in the argument did not fail to produce a thrill among many of the audience:—

> "Danseuses, à présent, vous allez nous les rendre
> Dans leur fraicheur pâlie et leur charme effacé,
> Ces visions d'aïeule où, folle, grave ou tendre,
> L'âme de notre France, en dansant, a passé."

Had it not been foretold that dancing would take place where the Bastille stood? and when the soul of France inspired the Great Revolution the grounds that covered the dread dungeons of the Bastille were converted into a garden and over the entrance was written, "*Ici on danse.*"

The last act represented modern ballet-dancing, but beyond the fact, as the *Matin* remarks, that Mademoiselle Zambelli with her rose-coloured satin shoe traced arabesques over the brains of the world, there is not much that was particularly interesting in this last phase of the performance. M. Loubet, Madame Loubet, the Shah, and their households now rose and slowly walked back to the Elysée through the great concourse that stood around them. Naturally they were very heartily greeted. But it took a long time before the guests had all departed. There were buffets under the trees where champagne and iced drinks were dispensed with lavish hand. The buffets inside the Palace had early in the afternoon been strategically surrounded and captured by the Germans, who, as a distinguished physician remarked, profit by the decorum, the timidity, and the politeness of other nationalities to get the most and the best for themselves. However, as among the better educated classes people do not go to such receptions for the sake of what they can eat and drink, there were comparatively few complaints. Apart from the refreshments the gardens were so pleasant and the crowd so interesting that but few cared to hurry their departure. Nearly every nationality was represented, many of them in their national costumes. The students wore strange caps of eccentric shape and often of gaudy colours. Then there were the two sons of the King of Norodom, who displayed their legs in black silk stockings while their bodies were draped with violet silk heavily covered with elaborate gilt designs. The Magyars, of course, stood proudly in their top boots, their tights, and their Attila cloaks, rich in furs and velvets, while plumes rose high above their heads. The trencher caps of the English universities were, however, considered quite as eccentric as any of these, to us, less familiar vagaries. The white caps of the Scandinavians, the spiked helmets of the German military surgeons, the fur bonnets of the Galicians, the broad silk bands of the Swiss students, the black Astrachan and pointed hats of the Persians, the elegant and fanciful dresses of the ladies, the glare of the chandeliers within the palace, the subdued tones of the garden at the approach of nightfall,—all went to make up such a picture, such a variety of effect, such a multiplicity of interest, that this garden party will never be forgotten by the thousands of guests of all nationalities who had the good fortune to be present. The idea of the entertainment originated with M. Loubet. He was anxious to do something new and unprecedented specially in honour of the medical and scientific guests of the French nation. He, in fact, possesses, as it were, the copyright of the whole entertainment. But already a great number of newspapers have urged that what has been done so well deserves to be repeated and special petitions are to be made to M. Loubet to allow the performance to be given again both at the Grand Opéra and in the Hall of Festivals at the Exhibition. Whatever may be the result of these requests, the members of the medical profession of all nations have to thank the President of the French Republic for the honour which he conferred upon them in thus organising such a magnificent entertainment for their special benefit.

A VISIT TO SOME OF THE PARIS HOSPITALS.

(FROM A CORRESPONDENT.)

There is probably no city in the world the hospitals of which are better known, at any rate by name, to physicians and surgeons all the world over than those of Paris. The doors of all were thrown open to the members of the Thirteenth International Congress of Medicine and full advantage was taken of the permission. In many the professors had prepared special demonstrations, and there is no specialty the votaries of which were unable to gratify their interest during the past week in Paris.

Hôtel Dieu.—Many physicians wended their way past the towers of Nôtre Dame to the famous Hôtel Dieu, one of the oldest of the Parisian hospitals, dating from the seventh century, but completely rebuilt in 1878. The importance of this hospital may be recognised from the interesting fact that during the French Revolution it was rechristened "L'Hôpital de l'Humanité." Here Dieulafoy holds the senior chair of clinical medicine, and gives twice a week the masterly lectures associated with his name. This last year he has devoted much time to the pathology and treatment of appendicitis. He is so convinced of the necessity of early surgical treatment that he has formulated his opinion in the words, "*Il n'y a pas de traitement médical de l'appendicite.*" Faisans also has wards in the Hôtel Dieu and is a good clinician, the other physicians being Brissaud and Cornil, there being in all 510 beds for medical cases. During the Congress Lucas-Championnière gave a demonstration of his method of treating fractures by mobilisation and massage with presentation of patients so treated, his theory and practice being similar to those of Mr. W. H. Bennett, whose results have been published in our columns. There is no doubt that his method is a healthy reaction against the exaggerated teaching of putting up even a Pott's fracture in plaster or splints for from three to six weeks or strapping an arm for several weeks for a fractured clavicle. The essential quality in the apparatus used, which should be as light as possible and should be worn for the shortest possible time, is to prevent displacement. There is much work still to be done in this subject, greatly aided as we are in our examination of a fracture by the x rays. Champétier de Ribes is the accoucheur of the Hôtel Dieu and his ward visits are always instructive and interesting, the present school of midwifery in Paris being indeed very strong with Pinard and Budin in the van.

Hôpital de la Pitié.—Not a few of the hospitals of Paris are so constructed and equipped as to inevitably remind one of the injunction not to put new wine into old bottles. It

is striking, for instance, to see over the old gateway of La Pitié the date "1612" still legible on the battered stones and inside to find operating theatres equipped with all the very latest improvements. Another contrast is the notice "*Service de consultation*" on what is evidently the door of the ancient chapel of the hospital, and yet in La Pitié may be seen Terrier, a pioneer in aseptic surgery and still one of the ablest surgeons in France. His formula is, "Perfect asepsis of instruments and dressings, antisepsis of the skin of surgeon and patient." It is well worth while to pay a visit to some of the medical wards of La Pitié, Jaccoud's or Robin's. Babinski, too, has clinical demonstrations in which nervous diseases are shown and contrasted. The immense material of the larger Paris hospitals affords an invaluable training to students and graduates.

L'Hôpital de la Charité.—Close to the Faculty of Medicine, in the buildings of which the meetings of the Congress were held, is the famous Hôpital de la Charité, covering the immense piece of ground bounded by the rue Jacob, the boulevard St. Germain, and the rue des Saints-Pères. Its old amphitheatre, formerly the choir of the chapel, is that in which Corvisart inaugurated the first chair of clinical medicine during the Revolution. Potain and Bouchard are the chief physicians and there are few whose lectures are more instructive and interesting. The surgeon, Tillaux, is one of the old school, but full of a long experience and a wisdom that draws round him daily numbers of students. Tillaux had the reputation in his youth of being able to break a femur in his vigorous hands.

Saint Antoine.—Hayem, who has done so much work in investigating changes in the blood in anæmia and other diseases, issued a general invitation to visit his wards, of which a considerable number of physicians took advantage. It is some distance along the rue de Rivoli and the old Faubourg St. Antoine until the hospital, founded as long ago as 1178 by Foulques, preacher of the fourth crusade, is reached. Lermoyz has here one of the best services for diseases of the ear, the nose, and the throat. Béclère gave an interesting demonstration here to members of the Congress during its session of medical radioscopy with explanation of apparatus and presentation of patients.

Hôpital Necker.—One of the best organised sections of the Congress was that of genito-urinary diseases held in Guyon's department of the Necker Hospital. Guyon has his wards here, his magnificently-equipped out-patient department, pathological department, museum and library, all affording much interest to anyone engaged in the treatment of these diseases. The French members of this section gave a banquet to their foreign *confrères* and Professor and Madame Guyon gave a most enjoyable reception.

Hôpital Cochin.—High up in the rue du Faubourg Saint Jacques is the Hôpital Cochin, which is well worthy of a visit if only to see the two new beautiful surgical wards in the garden, built in 1893 and named the "Pasteur" ward and the "Lister" ward. Cochin boasts three of the most distinguished surgeons of Paris—namely, Schwartz, Bonilly, and Quénu. Quénu has done much good work and good writing on the surgery of diseases of the rectum and is a scrupulously clean operator. Bonilly has one of the largest practices in surgical gynæcology in Paris. In vaginal hysterectomy he adheres to the generally discarded method of assuring the arrest of hæmorrhage by leaving forceps on the broad ligaments for 48 hours after the operation. Chauffard, the genial secretary of the Congress, is an energetic physician whose wards in the Hôpital Cochin are well worthy of a visit.

The *Hôpital Beaujon* is one of the older hospitals of Paris. Berger here does interesting plastic operations and Bazy always extends a hearty welcome to visitors to his gynæcological and genito-urinary cases. Ribemont-Dessaignes has the midwifery building, which is one of the most modern and perfect in Paris. It is only necessary to contrast the French and English textbooks on this subject to see to what a degree of thoroughness of detail this specialty is developed in France.

The *Hôpital Lariboisière*, near the Gare du Nord, was too far for many of the members of the Congress; but those who did go saw Tuffier, one of the best of the younger surgeons, operate. Tuffier is simple and clean in all his abdominal work.

The *Hôpital Tenon* was visited in order to see Léjars operate. Léjars is the author of "La Chirurgie d'Urgence." Here, too, is Poirier, the energetic and versatile surgeon, formerly professor of anatomy. Lannois and Achard have also wards in the Tenon Hospital.

The *Hôpital Laënnec*, in the rue de Sèvres, has two services well worthy of a visit—namely, Landouzy's in medicine and Reclus's in surgery. Reclus is an excellent clinical teacher and does some interesting surgery under cocaine, including the radical cure of hernia, amputations, &c. Landouzy is one of the French authorities on tuberculosis.

The *Hôpital Bichat* is a new hospital built to make up for the necessary demolition of part of the Hôtel Dieu. The surgical department perhaps is best equipped owing to the fact that these wards were held by Terrier and his assistant Hartmann, who are rigid adherents to all rules of asepsis.

The *Hôpital Boucicaut* is the newest and best of the Paris hospitals. Gerard-Marchant is the surgeon and Letulle the physician. Letulle has had the courage and energy to put current ideas into practice and has transformed one of his wards into a sanatorium for consumptives. Doléris is the accoucheur and is always interesting and instructive.

Dermatologists at the Congress had a treat in store for them at the *Hôpital St. Louis*—the largest skin hospital in the world. Built by Henry IV. to take in plague-stricken patients and named in memory of St. Louis who died from the plague when leading the army of France in Palestine in a crusade, it is still recognised chiefly as a school for this specialty, the out-door consultation service being particularly useful owing to the number and variety of the daily cases. The out-door patients in 1899 amounted to 140,000. The library and the many beautifully coloured models illustrative of diseases of skin are invaluable to the student and to the practitioner.

The *Hôpital Ricord*, with its curious old gateway in the Boulevard du Port-Royal, offers a great opportunity to all who wish to study venereal diseases. From 50 to 200 patients presenting every form of chancre, &c., defile daily at the out-door service. The corresponding hospital for women is the *Hôpital Broca* where Pozzi has gynæcological wards. Pozzi's great scientific position has been recently recognised in England by his election to an honorary Fellowship of the Royal College of Surgeons of England.

Children's hospitals.—This department is well managed in Paris both as to surgical and medical wards. The Hôpital des Enfants Malades has several pavilions for the treatment of diphtheria, where Sevestre gives a full course of practical instruction. Lannelongue, the President of the Congress, is surgeon here. Grancher and his able assistant Marfan have also wards here, while the foreigner can go round the wards with Comby or Variot, both excellent observers. The other large children's hospital is the Hôpital Trousseau, near the Bastille. Here Broca has a large surgical service, and here also practise Kirmisson, a well-known orthopædist, and Netter, who has done such good bacteriological and clinical work in pneumonia and meningitis.

Nervous diseases.—The Salpêtrière, with its 4000 inhabitants, is known all the world over. Here Charcot began the scientific study of nervous diseases and laid foundations upon which modern pathology is firmly based. Here Raymond and Déjèrine hold their interesting cliniques, to which flock specialists from all the world. Pierre Marie's wards are at the Hospice de Bicêtre.

OPERATIONS AT DOYEN'S CLINIQUE.

Of the thousands of physicians and surgeons in Paris during the week of the International Congress there must be comparatively few who made a point of systematically and regularly attending the various sectional meetings. The fact that these proceedings are afterwards printed in full, that discussion upon the papers read and defence by each author of the thesis he has advanced are limited to a few minutes, and that many of the papers are merely "taken as read," all these reasons tend to make the sectional gatherings more or less formal. The great interest of such a Congress lies in the incidentals, the meeting of scientific men of various countries all bound by the same interests, the contrast that each sees between what is here known and held to be good and that which he has hitherto considered to be best, and the healthy rivalry of medical men in all departments to offer to the visitor what may be most interesting and attractive. Thus this last week foreigners have had the opportunity of hearing Lucas-Championnière and seeing his well-known, but not altogether accepted, method of the treatment of fractures by mobilisation and massage, of going round his wards with Hayem and Dieulafoy and Potain and Robin, and

of visiting the famous Cliniques Baudelocque and Tarnier. To surgeons, however, one of the most interesting events was the visit to Doyen's private surgical clinique in the rue Piccini, just off the most beautiful part of the Avenue du Bois de Boulogne. Here Doyen operated daily, and in spite of the early hour of half-past seven there was upon each occasion a large attendance, including most of the greatest surgical names of the day. Among those present on Thursday, fresh from his reception by the President of the Republic, was the venerable Virchow, who came on purpose to see the operation of hemicraniectomy for a case of epilepsy due, as the operation beautifully showed when the osteo-cutaneous flap was folded down, to an exostosis growing from the inner table of the skull over the motor area. Doyen pointed out to Virchow that one of the surgeon's chief difficulties in head surgery had been the mechanical one of opening the "boite cranienne," but that with his electrical instrumentation that part of the operation did not last very long. "On the contrary," said the eminent pathologist, "it seems to me very short." Doyen also did a vaginal hysterectomy and an abdominal hysterectomy for fibroid, showing in each case his latest modifications of the operation. Another morning Doyen showed the second step of a craniectomy—that is, the exploration of the brain five or six days after the craniectomy has been performed—an amputation of the breast, an osteomyelitis, and an excision of the tongue. There were many well-known surgeons present, including Hingston (Canada), Kocher (Berne), A. R. Simpson (Edinburgh), William Murphy (Chicago), W. W. Keen, von Bergmann (Berlin), Snegireff (Moscow), and Mayo Robson (Leeds). Between the operations Doyen showed his visitors his technique of various other operations as recorded by the kinematograph—namely, excision of a goitre, an ovariotomy, vaginal and abdominal hysterectomy, amputation of a leg, &c., proving that though he had the reputation of being a rapid operator his speed was not due to haste but to a simplicity of technique which made lengthy operations exceptional. Doyen often quotes the English saying "that time is money," and adds, "*Pour nous chirurgiens le temps c'est la vie.*"

There have been many pleasant social and professional events in connexion with the Thirteenth International Medical Congress and the great numbers of medical men it has drawn to Paris from all parts of the world. On August 4th a meeting of the staff and former residents of the Hertford British Hospital was held to present to the Hon. Alan Herbert, M.D., an illuminated address commemorating his long and valued services to French and English interests in Paris, commencing with the ambulance work during the sieges of Paris in 1870 and 1871 and continuing with the duties of physician to the hospital founded so philanthropically and generously by Sir Richard Wallace. On the motion of Dr. A. A. Warden the chair was taken by Dr. James Miller, who then called upon Dr. J. F. Sutherland to present the address. The meeting was an interesting one and the affection and regard of all present for their old chief were evident and sincere. Sir Dyce Duckworth, who was present, made a few remarks emphasising the value to the English community and profession in Paris of a practitioner of Dr Herbert's high qualifications, and Professor Berger, a former fellow-interne with Dr. Herbert in the late "sixties," also made a few appreciatory remarks. Among those present were Dr. J. A. Bateman, Dr. Neech, Dr. Brandt of Royat, Dr. Waters, and Dr. Cree. The company separated to meet again in the evening around the hospitable table of Dr. Herbert in the rue Duphot, all glad to bear witness to the esteem felt for the doyen of English practitioners on the continent.

The members of the committee for the Section of Urinary Surgery gave a banquet to their foreign *confrères* on August 6th at the Palais d'Orsay in the handsome dining-hall of the new terminus hotel, the chair being taken by Professor Guyon. More than 130 guests sat down to dinner, among that number being included some wives of the members. The toast of "The Foreign Guests" was proposed by Professor Guyon from the chair in the most cordial terms. Mr. Reginald Harrison, in replying, referred to the good work that was being done in the section and to the fact that unless that section had been formed serious difficulties would have arisen in the Section of General Surgery from the great amount of material. He thanked the French hosts for their hospitality and said that all present recognised that though they had no common language they were actuated by the same desire for the advancement of medical science, a desire untrammelled by any differences arising from either clime or language. Professor Küster of Marburg, upon whom the Honorary Fellowship of the Royal College of Surgeons of England has recently been conferred, also thanked Professor Guyon and the French members of the section for their reception. The great success of the section was due to the excellent organisation and arrangements elaborated by the secretary, Dr. Desmos, who had done a large amount of valuable work.

On Wednesday night, August 8th, President Loubet gave a State banquet to the Presidents of Sections of the Thirteenth International Medical Congress and the official delegates from the various nations. The banquet took place at the Palais de l'Elysée and the guests were received by President Loubet and Madame Loubet. The gathering was one of the most brilliant of the many noteworthy events in connexion with the International Medical Congress, and the handsome uniforms and jewelled orders worn by the distinguished company were well set off by the artistic decorations of the palatial apartments. Covers were laid for over 250 and the table decorations excited much admiration, numberless rosebuds having been effectively arranged in connexion with the splendid service of Sèvres china. The dinner was the more enjoyable to many by reason of there being no speeches, and the excellent playing of the band of the 29th Infantry Regiment was much appreciated. After the banquet, before joining in the reception by President Loubet of members of the Congress, many guests lingered to examine the exquisite Gobelins tapestry on the walls and had leisure to admire the tasteful floral decoration of the pillars, the effect of the hanging chains of roses being specially artistic. No pains had been spared in organising the details of this entertainment and the comfort of each individual invited was most abundantly provided for.

On Thursday evening, August 9th, the Neurological Society of Paris gave a dinner in the Restaurant Russe in the Eiffel Tower in honour of the neurologists from the provinces and foreign countries who had taken part in the work of the Neurological Section. The President of the society, Professor Joffroy, was in the chair. The guests, including ladies, numbered about 150, and each as a souvenir of the meeting found in his or her place the medal by Vernon struck in honour of Charcot and subscribed for by his pupils and admirers. Professor Joffroy, as president of the society, proposed the health of Professor Raymond, the president of the section, and of Professor Marie, the secretary, whom recent bereavement prevented from being present, also of the reporters and members of the section. Professor Raymond replied briefly and with emotion to the eulogium of Professor Joffroy. Professor Homen (Helsingfors), M. Roth, M. Jolly, and M. Tamburini returned thanks for their respective countries, speaking in praise of Charcot, who lives in his distinguished pupils. M. Pitres replied for the French provincial neurologists.

On August 10th the Ophthalmological Society of France and the Paris Ophthalmological Society entertained over 130 members of the Ophthalmological section at Chantilly, among the party being about 30 ladies. The invited guests assembled at the Gare du Nord and proceeded by special train to Chantilly, a distance of 25 miles. Carriages were in waiting for the party at the station and after a short drive the Grand Hotel was reached where lunch was served, Professor Dor of Lyons presiding. Several representatives of different nationalities delivered themselves of speeches and then a move was made to the museum formerly the property of the Duc d'Aumale, the heir of the Condés. The picture gallery, containing examples of such painters as Raphael and Poussin, naturally attracted the visitors and the well-kept grounds also were much admired. A long drive through the park and the forest concluded a most pleasant excursion and the members returned to Paris by a special train.

THE SECTIONS.

II.—MEDICINE.

GENERAL PATHOLOGY.

MM. P. HAUSHALTER and LOUIS SPILLMAN (Nancy) contributed a paper entitled

Researches upon Alterations brought about in the Bone-marrow of Young Animals by Infection or Intoxication.

The authors commenced by giving an account of the

different aspects presented by normal bone-marrow in young rabbits at ages varying from two days to two and a half months. They then went on to describe the alterations brought about in 49 rabbits, aged from two days to three months, alterations brought about by infection or intoxications produced by subcutaneous and intravenous injections or by way of the alimentary or pulmonary tracts. The substances used were various cultures, microbial toxins, extracts from fæcal matter, and sundry poisonous substances. They divided the appearances shown by the marrow after infection into classes of the following types: (1) a simple fœtal type showing the cells crowded together without fatty vacuoles; and (2) a type wherein the vacuoles were absent; but the cells were crowded and red, infiltrated, or massed together cells also were seen. In addition to these they distinguished three other types showing certain special features. From their observations MM. Haushalter and Spillman concluded that the particular type observed after inoculation had no relation to the age of the animal, to the length of time for which it survived, to the method of infection, to the nature of the substance inoculated, or even to the intensity of the infection or intoxication. The medullary reaction was able to manifest itself in a marked way in slight general or local infections, but was insignificant in rapidly fatal infections. Microbes and various toxic or chemical substances introduced into the organism by various routes acted upon the marrow of a young animal in very similar ways, bringing about alterations in it which corresponded to a powerful method of defence employed by the organism. Infection of the pregnant female, as other observers had shown, could bring about medullary alterations in the offspring.

Professor G. RUMMO (Palermo) read a paper upon

The Nature and Essence of the Toxic Qualities of Blood-serum both when Normal and Pathological.

He said: "The numerous works published in Italy, France, and in other countries upon this subject have entirely borne out the results of experiments first undertaken by myself and M. Bordoni in 1888 and continued by myself in 1891 and in following years. The group of symptoms of poisoning brought about by injections of heterogenous blood-serum have been accepted by those observers who have followed my work. Some slight discrepancies have arisen as to the toxic dose due to the different animals experimented upon, in the method of collecting the serum, in the rapidity with which the clinical picture develops, and so although I have always brought about a very acute poisoning others have observed a more or less slow intoxication and have arrived at a lower toxic co-efficient. My experiments show that the toxicity of blood-serum does not depend upon urea or upon mineral substances any more than upon increase in the amount of blood matter or acute infection or upon substances which are formed outside the vessels. Kohler's theory as to the fermentation of fibrin and Landois's as to a corpuscular decomposition are not now tenable. As a matter of fact, an animal can lose with impunity one-fifth of its blood and there is no relation between corpuscular disintegration and the toxicity of blood-serum. For instance, the serum of ox blood, which has a high toxicity when injected into a chicken, does not disintegrate the corpuscles to anything like the same extent. *Vice versa*, ox blood-serum passed through a Chamberland filter loses the greater part of its toxic power although the disintegrating power is preserved. In my opinion the toxic power of heterogenous blood-serum is due to toxic principles, to true animal poisons which the blood picks up from the tissues, which are promptly eliminated by the emunctories and which are neutralised by certain glands. These principles are partly fixed and partly volatile and are altered by putrefaction. Given by way of the stomach serum is only slightly poisonous. When introduced into the veins it brings about disturbances in the nervous and muscular systems, in the blood, in the myocardium and its intrinsic innervation, in the blood-pressure, in the heat centres, and in metabolism." Professor Rummo went on to say that he had studied the chemistry of the subject and was able definitely to say that the toxic principles resided in the albuminous bodies of the serum or at least in substances which were precipitated with the albumins.

Dr. F. W. PAVY, LL.D., F.R.S., consulting physician to Guy's Hospital, read a paper upon

Fundamental Points connected with the Pathology of Diabetes Mellitus.

The following were the principal points demonstrated. The primary point to be dealt with in connexion with diabetes mellitus was that carbohydrate, in the form of sugar, was eliminated with the urine in a manner that did not occur in health. From this it followed that in diabetes an inaptitude existed within the system for the proper application of carbohydrate matter to the purposes of life. Thus, briefly stated, diabetes consisted fundamentally in a mal-application of carbohydrate through an error existing somewhere or other within the system. The amount of carbohydrate reaching the system from the food was exceedingly variable, but under natural circumstances no matter what amount within ordinary limits was ingested it did not afterwards become visible to them. All that was observable was that it disappeared from view and that the system derived benefit from it. Exactly the reverse was met with in diabetes. Instead of disappearing from view the carbohydrate reaching the system from the food was afterwards discoverable in the urine as sugar. Proportionately to the amount of carbohydrate ingested so was sugar discoverable in the urine. Penetrating further, the blood of the general circulation was found to stand in a similar position to the urine. Normally, there was in the urine a certain small proportion of sugar which was not to any sensible extent influenced by the character of the food. Normally, also, in the blood there was a certain standard amount of sugar present irrespectively of the nature of the food. There was no difficulty in definitely expressing its quantity and it might be said to stand at somewhere about 1 per 1000. It seemed to be a standard component of the blood just as they found sugar entering as a constituent into the various tissues of the body; and, moreover, it was susceptible of being shown[1] that, as in the tissues, the sugar was not solely dextrose, but dextrose associated with other cupric oxide—reducing carbohydrates so as to give rise to a product possessing a cupric oxide—reducing power considerably below that of dextrose. Such was a representation of the normal state and the small amount of sugar present in the urine corresponded, it might be considered, with that existing in the blood.[2] Concurrently with the outflow of sugar in diabetes there was an increased amount recognisable in the blood. The sugar eliminated had pre-existed in the blood and the fault lay in its having been there. Carbohydrate food now led to the undue presence of sugar in the contents of the circulation and it was by virtue of this that it appeared in the urine. The sugar escaping might be taken as an index of the sugar that had wrongly been present in the blood. The point was thus reached that diabetes was fundamentally connected with the wrong presence of sugar in the blood and the question that next presented itself was, To what cause was the wrong presence attributable? Could it be that the carbohydrate of their food naturally reached the general circulation as sugar and through failing to disappear accumulated and then passed into the urine? or was it that the carbohydrate ought not in reality to reach the general circulation and by wrongly doing so rendered itself evident in the manner that was observed? Dr. Pavy then recounted experiments proving that if sugar were injected into the blood it was not destroyed but after the lapse of some time appeared as such in the urine. Insuperable difficulties attended the view that the carbohydrate matter of their food passed in the form of sugar through the circulation to the tissues for destruction. The facts of modern science gave it no support—indeed, they stood opposed to it. The transit could not occur without being brought to their knowledge by the state of the urine, and no possibility of disappearance existed of a nature to satisfy the requirements of the case. To provide for freedom from glycosuria the carbohydrate of their food must be prevented from reaching the general circulation as sugar and this point brought them to the consideration of the broad question of the mode of utilisation of carbohydrate in the animal economy. The problem now before them was, In what way did the carbohydrate matter of their food become disposed of so as to be prevented reaching the general circulation as sugar? Any solution that was offered of this problem to be satisfactory must locate the disposal somewhere between the seat of absorption and the point where the general circulation was reached—that was, somewhere before the hepatic veins were arrived at. Dr. Pavy then went on to say that, broadly speaking, carbohydrate matter in organism was disposed of as follows: small molecular sized carbohydrates were built up with concurrent dehydration into large-sized

[1] Pavy: Journal of Physiology, xxiv., p. 486.
[2] Baisch, Zeitschrift für Physiologische Chemie, xx., 1895, p. 249.

molecules by protoplasmic action, while large molecular sized carbohydrates were broken down and hydrated into small molecules by ferments. He proceeded to say that it was the change wrought upon absorbed carbohydrate that placed it in a position to pass in the direction of utilisation, and evidence went to show that if this change was not brought about it remained as sugar and in this state was carried to the general circulation whence it flowed off as waste material with the urine. Thus what was wanted to avert the outflow of sugar was that by the proper performance of assimilation the carbohydrate should be disposed of without sugar being permitted to reach the general circulation. To this question of assimilation he would now direct attention. He had entered into it fully in his work on "The Physiology of the Carbohydrates," published in London in 1894. A German translation by Karl Grube was published in the following year by Deuticke of Vienna. As a result of experimental inquiry he had been led to consider that by the following three processes the carbohydrate of their food was disposed of in the villi and in the liver and thus prevented reaching the general circulation as sugar: (1) transformation into fat; (2) synthesis into proteid; and (3) transmutation into glocogen. Dr. Pavy then proceeded to give an exhaustive account of how these transformations were effected. Shortly, his conclusions may be summed up thus: carbohydrates were transmuted into fat by the action of the protoplasmic cells of the villi. As to synthesis into proteid this was effected by the carbohydrate reaching the villi as sugar. Falling within the influence of the cell proteid-plasm encountered the carbohydrate became incorporated into proteid. Transmutation into glycogen occurred chiefly, though not exclusively, in the liver. By assimilation in the manner pointed out above the sugar carbohydrate was prevented from reaching the general circulation as sugar. If assimilation was not fully carried out the non-assimilated carbohydrate reached the general circulation as sugar and appeared as such in the urine. Dr. Pavy proceeded to say that by a test diet information was readily obtainable regarding the extent to which the assimilative power was deficient. It might happen that the loss of assimilative power was such that even with a properly constructed fully restricted diet the carbohydrate contained in it (it was not possible to construct an existence diet *entirely* free from carbohydrate) sufficed to throw a certain amount of sugar into the urine. Ordinarily the loss did not amount to this and thence by the restricted diet a sugar-free state of urine might be induced. With a less extent of loss a certain amount of food of a carbohydrate nature would be found to be susceptible of being taken without leading to the passage of sugar; and thus it was observed to run on, more and more carbohydrate being tolerated in proportion as there was less and less loss of assimilative power. The effect of adjusting the supply of carbohydrate to the assimilative power existing to dispose of it was intrinsically to place the system in a natural state. It was not the mere fact of the waste of food attending the elimination of sugar that constituted the source of trouble in diabetes; this was but a minor part of the question. The source of the various symptoms was the presence in the system of the sugar which had preceded the elimination. The blood of the general circulation stood in a position antecedent to the urine. The sugar found in the urine had previously existed in the blood and had thus created in this fluid a deviation from the natural state which told injuriously upon the entire system. It was not natural for the blood of the general circulation to contain more than a certain small amount of sugar which under normal circumstances was not influenced by the presence of carbohydrate matter in the food. When an increased quantity of sugar was present as the result of faulty assimilative action it was thrown into an unnatural state by which its fitness for administering to the nutritive and other operations of life was interfered with. The various symptoms encountered in diabetes depended upon the abnormal presence of sugar in the blood, and immediately this condition was altered by excluding from the food the carbohydrate that failed to be assimilated the symptoms subsided. The speediness of the alteration in the condition of a patient was often wonderfully marked. The transit of sugar through the system that could be controlled by the reduction of ingested carbohydrate meant the infliction of unnecessary harm, and the harm inflicted stood proportionate to the amount of sugar that was allowed to reach the system and thence escape with the urine. The fact of the voidance of sugar afforded evidence that the system was already overburdened with carbohydrates and anything which conduced to its increase would have the effect of adding to the troubled state existing. What was wanted for rectifying matters was restoration of the assimilative power. This, according to Dr. Pavy's experience, was not attainable unless the system was brought into a natural state by controlling the transit of sugar through it from the food. This was indicated by the removal of sugar from the urine, and with this removal steadily maintained cases presented themselves in which first of all a little carbohydrate food was found to be tolerated without leading to the voidance of sugar and then more and more until it might possibly happen that an ordinary diet could be resumed without occasioning a re-appearance of sugar in the urine. The class of case in which this favourable issue might be met with was that occurring amongst persons above the middle period of life, and in this class instead of being a rare event it was not uncommon to find that the assimilative power might be restored to a certain point and at this point, more or less short of what was natural, remain. Under such circumstances, as long as the carbohydrate taken was within the limit representing the assimilative power existing there was no sugar voided, whilst when the limit was overstepped sugar appeared in the urine in proportion to the extent to which the excess had reached. It was the "*alimentary*" form of diabetes to which Dr. Pavy had been referring and in this form the elimination of sugar was not only controllable by regulation of the food but there was an absence of abnormal tissue disintegration. In the other and more grave form of diabetes to which Dr. Pavy had suggested[3] that the term "*composite*" should be applied the eliminated sugar was in part derived from the tissues of the body as well as from the food. By morbid tissue breaking down the carbohydrate contained in the proteid molecule became cleaved off and passing into the blood reached the urine. Other products also arose from this abnormal tissue disintegration and through these likewise passing into the urine an indication was afforded of the action going on. β-oxy-butyric and di-acetic acids accompanied the sugar and distinguished the "*composite*" from the "*alimentary*" form of the disease. In the latter the pathological condition was confined to a mal-assimilation of the carbohydrate matter of food, whilst in the former there was this and in addition an abnormal setting free of carbohydrate in the form of sugar from a previously combined state. If, now, they gave a comprehensive glance at the position of their knowledge of the conditions standing at the foundation of diabetes it might be said that the effect of modern research was to carry them away from the view that there was a functional transit of the carbohydrate matter of their food as sugar through the general circulation to the tissues. Under such a view they were faced with insuperable difficulties in relation to the information they possessed with regard to both health and diabetes, whilst under the view contended for in this communication everything satisfactorily fitted in and a rational working basis for the treatment of diabetes was supplied.

Glykæmia and Diabetes Mellitus.

Professor I. SEEGEN (Vienna) read a paper in which he stated that glucose was a normal constituent of the blood and that glykæmia was essential to health. He had examined the blood of 10 healthy men of various occupations between 20 and 30 years of age and had found that the amount of sugar in it varied between 0·16 and 0·18 per cent. Hyperglykæmia was different from normal glykæmia. According to Bernard the limit between them was drawn at 0·25 per cent. Beyond this amount a portion of the sugar of the blood was excreted by the kidneys. Hyperglykæmia was regarded as a necessary condition preliminary to glycosuria. Opinions varied as to the cause of hyperglykæmia. Chauveau and Kaufmann believed it to be due to an over-production of sugar. They relied on differences in the amounts of sugar found on chemical analysis of venous and arterial blood; but Professor Seegen had shown that these differences were within the limits of error and that the method was unreliable. He believed that hyperglykæmia was caused not by over-production of sugar but by interference with its transformation, so that sugar accumulated in the blood. By estimation of the sugar contained in the blood of diabetic patients Professor Seegen had ascertained

[3] THE LANCET, June 16th, 23rd, and 30th, 1900.

that there might be well-marked glycosuria without concomitant hyperglykæmia. It was only in cases of severe diabetes which persisted in spite of the absolute withdrawal of amylaceous food that the sugar of the blood was notably increased, reaching 0·3 or 0·4 per cent.

M. BOSC (Montpellier) read a paper upon

The Treatment of Typhoid Fever by Injections of Artificial Serum.

He said: "Basing my ideas upon a very considerable clinical experience I have come to the conclusion that alongside the usual methods of treatment employed in typhoid fever—namely, the cold bath and the use of caffeine—an important place ought to be given to subcutaneous injections of saline solution. A daily dose given subcutaneously of from 800 to 1000 cubic centimetres of artificial serum brings about two sets of phenomena in typhoid fever patients. First come phenomena of reaction, such as sweating, profuse micturition, and the like, which are relatively unimportant and soon give place to post-reactionary phenomena. These last from 12 to 24 hours, or even 48 hours, and are characterised by an elevation of blood-pressure, an increase in the force of the heart beat, a fall of the temperature, and finally, by a great activity of the emunctories. After the third or fourth injection the blood-pressure, which before was perhaps only from eight to 10 centimetres, rises to 17 or 18 centimetres, and finally is maintained at about 14 centimetres. The antipyretic action of injection of saline solution is not only marked but is also persistent. The amount of urine secreted is much increased and a general tonic action is apparent. I would add that in cases of typhoid fever complicated with intestinal hæmorrhages I have seen remarkable hæmostatic effects produced by the injection. The sole contra-indication for the use of this remedy is the fear of raising the arterial tension too high, but this danger is in great part guarded against by the greatly increased diuresis.

M. CHARRIN (Paris) had found that the serum of animals injected with solutions of mineral substances increased in bactericidal qualities. He would like to know whether M. Bosc had noticed any analogous properties in the serum of his typhoid fever patients who had been treated by injections of artificial serum.

M. BOSC replied that he had not studied the subject from this point of view.

M. BALTHAZARD (Paris) said that in a case of diphtheria treated in M. Richardier's wards by injections of saline solution it was noticed that the toxicity of the urine was much increased. Such treatment, therefore, must aid in the elimination of poisons.

M. BAYLAC (Toulouse) was afraid that the continued use of subcutaneous injection might give rise to septic accidents. For himself he preferred the use of enemata which gave just as good results.

M. BOSC, in reply, said that with reasonable care there was no danger of sepsis, provided that the usual rules for its prevention were observed.

Extra-Buccal Alimentation.

Dr. W. VON LEUBE in his remarks on this subject drew attention to the administration of nourishment by nutrient enemata and by subcutaneous injection. Proteid matters were well absorbed by the rectum, but after the prolonged use of enemata proctitis frequently ensued. Carbohydrates were also suitable for this means of feeding and the best form to use was starch, which was transformed in the rectum into grape sugar and irritated the rectum to a lesser degree than did cane sugar. Fat was not suitable for nutrient enemata, but meat and fat pounded with the pancreas of an animal might be recommended. By means of subcutaneous injections fat was well absorbed, but peptones, albumoses, and carbohydrates were not suitable. The speaker therefore suggested that in those cases in which no nourishment could be taken by the mouth a combination of nutrient enemata and subcutaneous injections should be employed.

Professor C. A. EWALD (Berlin) contended that extra-buccal alimentation was not a complete substitute for feeding by the mouth and could not fully satisfy the claims of the body for any length of time, and in the great majority of cases wasting supervened when extra-buccal feeding was entirely resorted to. An exception might be made to this statement, however, in those cases in which there was a benign stricture of the œsophagus. The best results were obtained when enemata were given simply as a temporary measure or when this mode of alimentation was added to the ordinary means of feeding. Nutrient enemata were much to be preferred to subcutaneous injections. In fact, Professor Ewald was of opinion that the latter could only be considered as experiments and not as recognised measures for administering nourishment.

M. CHANTEMESSE (Paris) read a paper upon

The Action of Microbial Toxins upon the Myocardium.

He said that before studying the effects of microbial poisons upon the myocardium M. Lamy and himself made some observations upon the isolated heart of a tortoise which was supplied with fresh blood. They were thus able to obtain a number of tracings registering changes in the volume and rhythm of the heart. (These tracings served as controls.) The toxins of typhoid fever and of diphtheria only acted slowly and after a period of latency, during which the action of the heart was in no way disturbed. It appeared as though the anatomical elements of the heart gradually took up the poison and that their action was not impaired until saturation point was reached. By employing very strong doses of poison they were enabled to bring about arrest of the heart which remained absolutely irresponsive to stimuli at the end of two hours. If instead of passing the poison directly through the heart it was first injected into an animal and the blood of this animal then used to feed the heart, the heart was much more violently affected. It would almost appear that the poisoned blood had a tetanising effect. However, after an hour or two of tachycardia the heart recovered itself. If, however, a fresh supply of blood from the same poisoned animal was again circulated through the heart the same cycle of phenomena recurred. The question was then, What was this cardio-excitant which existed in the blood of a poisoned animal? Was the toxin modified by the organism or was an *anticorps* produced by the living cells proportionately to their affection by the poison? The second hypothesis appeared to them the more plausible.

M. CENTANNI (Ferrara) read a paper upon

The Fixation of Anti-pneumococcic Serum in the Organism and the Multiplicity of its Component Bodies.

M. Centanni gave an interesting account of his various researches on the subject and concluded as follows: "In my opinion pneumococcic manifestations as well as those of other infections are due less to the direct action of the bacilli than to the rapid supply to the blood of secondary poisons having their origin in the altered tissues. Equally the results of my researches enable me to state that side by side with the multiplicity of bodies which go to make up an antitoxic serum the organism itself takes an active part in the mechanism of immunity."

M. PHISALX (Paris) read a paper upon

The Sources of Natural Immunity.

He said: "If a vigorous adult dog is injected under the skin of the thigh with a fresh non-sporulating but virulent culture of *charbon*, and if after an interval of from five to 18 days the animal is killed and cultures are made from the glands of the inguinal region, new cultures are obtained altogether different from the original anthrax culture inoculated. These gland cultures are deprived of all virulence, but according to the length of their stay in the gland and the intensity more or less marked of the local reaction the morphological characters of the bacillus are sometimes still recognisable, and at other times so completely changed that any observer not previously warned would assign them to a race having no affinity with the bacillus anthracis. They appear as micrococci, either single or in chains; they are non-virulent, stain by Gram's method, and do not form spores. To demonstrate their relationship to the bacillus anthracis I have inclosed cultures in capsules of collodion which I have then introduced into the peritoneal cavity in dogs. If one of these capsules full of virulent anthrax culture is withdrawn from the peritoneal cavity after a three months' stay it will be found to contain only micrococci capable of reproducing themselves indefinitely. This fact proves not only that the bacillus anthracis is transformed but also that the transformation takes place under the influence of soluble and dialysable substances. Why is this modification so slow in taking place in the capsules, although so rapid when the bacilli are exposed directly to the organism of the dog? By employing dogs' serum as a culture medium in the capsules I have ascertained that the transformation into micrococci becomes much more rapidly effected. It happens still more quickly if the capsule accidentally breaks so that white corpuscles are

able to enter. It is therefore probable that in the living animal the bactericidal power is exerted by a continuous supply of assisting principles which are elaborated mainly by the glands of the lymphatics and by the white corpuscles."

M. SABRAZÈS (Bordeaux) read a paper on

The Diagnosis of Pure Nervous Leprosy by Inspection of a Living Nervous Filament; the Part Played by Mosquitoes in the Inoculation of the Disease.

M. Sabrazès commenced by saying that although nodular leprosy was easy to diagnose the pure nervous form was very difficult. In the case of a man, aged 32 years, who suffered from this form of leprosy affecting the area supplied by the sciatic and the external popliteal nerves on the left side he had been able to confirm the diagnosis by inspection of a sensitive nerve filament excised from the anæsthetic region. He considered that mosquitoes might be agents for the transmission of the disease, for the blood of a leprous patient contained Hansen's bacilli in large numbers.

M. BABES (Bucharest) said that a long time ago he had demonstrated the presence of Hansen's bacilli in nerve filaments taken from a leper. He had also put forward the theory that these bacilli could penetrate directly through the skin.

BACTERIOLOGY AND PARASITOLOGY.

Immunity.

Dr. HANS BUCHNER (Munich) read a paper on this subject, treating it under the headings of Natural Resistance, Specific Immunity, and General Conclusions. He preferred the term "natural resistance" to the commonly employed one, "natural immunity," because he considered that the term "immunity" ought to be reserved for a specific, very characteristic condition quite different from natural resistance. Apart from cases of congenital insusceptibility to toxins, natural resistance consisted principally in the microbicide influence of the fluids and of certain cells of the organism and in their richness in alexins. It accounted also for the cure of infective processes which threatened the organism attacked and in which specific immunity recently acquired played no part. In staphylococcic infections, such as boils, abscesses, &c., recovery seemed to be due to an increase of the local or general natural resistance but not to specific immunisation. M. Metchnikoff and M. Bordet discovered several years ago that the alexins of the sera had for the most part their origin in the leucocytes. They supposed, however, that they had to do not with a secretion by living cells but with a passing over of the alexins into the serum after the death and breaking-up of the cells. M. Laschtschenko discovered in Dr. Buchner's laboratory that with a series of different sera heated to 60°C. it was possible to extract bactericide alexins from the leucocytes of rabbits without destroying the leucocytes. There was therefore evidently secretion by the leucocytes without destruction of them. The alexins consequently appeared to be usually secretions formed by living leucocytes and it followed for the explanation of phagocytosis that the bacteria were with doubt enfeebled by chemical action before being devoured. It was unquestionable that living and even virulent bacteria might be devoured by the leucocytes, but it was known that microbes passed through phases of latent vitality during which their vital functions were suspended and were afterwards recovered. If, therefore, in consequence of unfavourable external influences the processes of nutrition and multiplication ceased at intervals it was not always necessary that the micro-organism should be destroyed or permanently weakened. The main argument against the generalisation of phagocytosis was the fact that in the interior of the body, in exudations, &c., bacteria could be destroyed without leucocytes being present. It could, therefore, never be proved, when phagocytosis was observed, that there had been no primary chemical injury of the bacteria before they were attacked by the leucocytes. The microscope would not serve to decide the question, which would doubtless remain unanswered for a long time. Phagocytosis was clearly enough not an indispensable condition for the destruction of bacteria. Dr. Buchner classified specific immunity under three heads: (1) antitoxic, produced by previous treatment with specific toxins or non-toxic modifications of toxins; (2) bactericide, produced by previous treatment with specific bacteria, either alive or dead; and (3) haemolytic, produced by previous treatment with specific erythrocytes, fresh or heated to 60° C. In all three cases the blood of the animal experimented upon contained a substance (anticorps, Antikörper) which was not destroyed at 60° C. In Case 1 it was the well-known antitoxin contained in anti-diphtheritic and anti-tetanic serum. In Cases 2 and 3 it produced no immediately perceptible effect, but it acted in combination with the non-specific alexins. Natural resistance and specific immunity differed in principle, the former being characterised by the alexins and the latter by the specific substances (anticorps, Antikörper) just mentioned. These specific substances were not destroyed by a temperature of 65° C.; the differences between them depended not on the species of animal from which they had been obtained, but on the "Reaktionsobjekt" (toxins, bacteria, erythrocytes) with which the animal had been treated, and there was a chemotaxic attraction between the specific substance and the "Reaktionsobjekt." The alexins, on the other hand, were destroyed at 60° C.; they differed according to the species of the animal from which they had been obtained, and they did not exhibit the phenomena of chemotaxis.

Toxins and Antitoxins.

Professor EHRLICH in his paper summarised his conclusions under the following statements. 1. Toxins were extremely unstable substances found among products of secretion of animal or vegetable origin. 2. At present it was impossible to give a chemical definition of toxins, and that for two reasons, because (*a*) their tendency to change prevented them from being obtained in sufficient quantity and in a pure state, and (*b*) it was difficult to separate them from certain transformation products called "toxoids" which had an analogous composition. 3. The only criteria of a substance being a toxin were biological in their nature. These criteria were on the one hand the special phenomena presented by the toxic action, and on the other hand the power of determining under certain conditions the formation of antitoxins in the animal organism. This latter property permitted of an analogy being drawn between toxins and certain enzymes, an analogy which had been established by the work of Roux on the poison of diphtheria. 4. In contradistinction to the action of chemically defined poisons the action of most toxins was characterised by a period of incubation which never failed to occur, no matter how large a dose of toxin might be administered. Some poisonous substances which had no period of incubation—e.g., snake poison—resembled the toxins in their power of determining the formation of antitoxins and in their irritability. 5. Substances of definite chemical constitution were quite incapable of producing antitoxins. The statements that it was possible to obtain antitoxic sera efficacious against inorganic poisons, glycosides, or alkaloids, were founded on errors of observation. 6. It resulted from these peculiar properties of toxins that their action on the animal organism must be quite different from that of other poisons. The toxic action of toxins depended on their power of forming chemical and specific combinations with the protoplasm of certain groups of cells. Other poisons—e.g., the alkaloids—obeyed certain laws of distribution in the animal body, but they differed from toxins inasmuch as their relation with the parenchyma was far from a true chemical combination and was more akin to the phenomena of "solid solution." 7. The specific character of this chemical combination of the toxin molecule was due to this molecule possessing a peculiar chemical arrangement, the haptophore group. The fixation of the toxins on the tissues by the aid of this haptophore group did not sufficiently explain the toxic action of these compounds. This toxic action required the presence in the toxin molecule of a second group, the toxophore group, the influence of which on the protoplasm was conditioned by the combination of the haptophore group with the protoplasm. 8. Under certain experimental conditions the action of the haptophore group might be separated from that of the toxophore group. Thus Morgenroth had proved that in cold-blooded animals like the frog the haptophore group of the tetanus toxin molecule was capable of acting on the cells in the cold, but that the toxophore group required heat (explanation of Courmont's experiment). Differences in the time of action of the two groups also accounted for the period of incubation. Dönitz and Heymans following different methods proved that diphtheria toxin and tetanus toxin very rapidly became fixed in the tissues but that the pathological effects appeared slowly. 9. The fixation of the haptophore group of the toxin molecule in the protoplasm was accomplished by means of certain lateral chains which

the latter possessed and which were termed "receptors." These receptors shared also in the normal life of the protoplasm, inasmuch as they contributed to its nutrition by fixing the nutritive principles. Toxins had this in common with nutritive substances, that they possessed, like the latter, certain haptophore groups. In fact antitoxin substances (anticorps, Antikörper) might be produced by means of nutritive substances—e.g., Bordet's coaguline. 10. Receptors existed sometimes only in certain tissues, sometimes in the majority of the organs. (Tetanus toxin in guinea-pigs was of the one kind and in rabbits it was of the others.) 11. The absence of receptors in certain kinds of animals was, perhaps, one of the causes of natural immunity. On the other hand, the presence of numerous receptors in organs of small vital importance might produce, by a sort of deviation of the toxin molecules, a diminished sensibility of the organism with reference to that toxin (Dönitz, Roux). The receptors, far from being constant in the organism, might in certain cases undergo considerable variations (crotine, hæmolysine). 12. When the receptors of the protoplasm formed combinations with the haptophore group of the toxin these receptors ceased to be useful for the vitality of the cells, and phenomena of regeneration then occurred because the protoplasm renewed the receptors which had become unserviceable on entering into combination. In accordance with a general biological law this regeneration went further than merely to compensate what was deficient and became hyperregeneration (Ueberregeneration), which might be so exaggerated by repeated injections of toxins that at length the receptors regenerated in excess became detached and passed into the circulation. 13. These protoplasmic receptors circulating in the blood constituted the antitoxins. They preserved in this state their original property of chemically fixing the haptophore groups of the toxin. ..... 17. Löffler's diphtheria bacillus produced substances of two kinds—toxins and toxons, both of which had the property of fixing the specific antitoxic substance (Antikörper) and therefore possessed the same haptophore group. The action of the toxons was different from, and weaker than, that of the toxins. 18. Every diphtheria culture bouillon also contained non-toxic modifications of toxins; these bodies, however, were capable of combining with the antitoxic substance (Antikörper) and were known as "toxoids"; their formation depended on the fact that the toxophore group of the toxin molecule being much less stable than the haptophore group was much more easily destroyed under the influence of heat and chemical agents. Evidence of this was supplied by researches which had been made on the spontaneous attenuation of diphtheritic poisons preserved in the liquid state. These researches proved that while the toxic power of a given culture bouillon diminished considerably its neutralising power remained unaltered, the question being one of quantitative modification. 19. The toxoids were of different kinds, corresponding to the different causative agencies which were in operation. Many observations seemed to show that the toxin molecule might be destroyed in successive stages and that by employing suitable methods toxoids possessing a partial toxic power might be obtained. 20. It followed from this that specific antitoxins might be derived not only from toxins but from toxoids. Very sensitive animals such as mice and guinea-pigs might therefore be easily and rapidly immunised against tetanus by means of toxoids only. Therefore, when for patients abnormally sensitive on account of their illness only a moderate degree of immunisation was required it might be advisable to use toxoids.

The Hæmatozoon of Malaria.

M. A. LAVERAN said that the hæmatozoon of malaria (hæmamœba malariæ) presented two varieties which might be distinguished by the names "parva" and "magna" in accordance with the size of the parasites. Supposing that hæmamœba malariæ var. parva had been found in the blood of a patient in Senegal, if the person returned to France and again suffered from feverish attacks hæmamœba malariæ var. magna was generally found in the blood; the question was not one of different species but only of varieties. The methods of studying the parasite had made great progress of late years. Koch, Ziemann, Nocht, and Ruge had improved Romanowski's method. In the Proceedings of the Society of Biology for April 15th, 1899, and June 9th, 1900, M. Laveran had described a mode of staining the nuclei of the endoglobular hæmatozoa, which appeared to him to be more easy and certain than either the original or the modified one followed by Romanowski. The researches of Simond, Schaudinn, and Siedlecki upon the coccidia had thrown fresh light on the debated question of the flagella of the hæmatozoon of malaria, and it was now demonstrated that these flagella were male elements the function of which was to fecundate female elements. The observations made by Mac Callum, Opie, Koch, and Marchoux left no doubt on this subject, and in M. Laveran's opinion no one now maintained that the question was one of degeneration of the hæmatozoon. In 1884 M. Laveran suggested that in the absence of human beings the hæmatozoon of malaria was a parasite of the mosquito, an hypothesis which has been verified by the beautiful researches of Major Ronald Ross, I.M.S., supplemented by those of Koch, Grassi, Bignami, and Bastianelli. All the anopheles seemed to be able to convey malaria, the co-existence of anopheles and endemic malaria had now been demonstrated in a great many parts of the world; in non-malarious localities on the other hand only culex had been found. Anopheles which had bitten persons suffering from malaria might infect healthy persons; in the salivary glands of these insects germs were found which were inoculated along with the secretion of the venimo-salivary glands. It would, however, be premature to conclude that malaria was always inoculated in this way, for it was often contracted in uninhabited places; the fact that turning up and clearing the ground often gave rise to outbreaks of malaria was also difficult to explain on the hypothesis that malaria was always inoculated by anopheles which had fed on malarious blood. Protection against mosquitoes was, however, essential in the prophylaxis of malaria. It was also of importance to prevent relapses in patients who had already suffered from malaria, as such relapses would serve to infect anopheles. No means of obtaining an artificial immunity against malaria had as yet been discovered.

THERAPEUTICS, PHARMACOLOGY, AND MATERIA MEDICA.

In the sub-section of Therapeutics some interesting papers were read, among which may be mentioned the Treatment of Biliary Lithiasis, by Dr. NAUNYN (Strasburg), following which came papers on the same subject by Dr. GILBERT (Paris) and Dr. FOURNIER (Paris). Professor BAGINSKY (Berlin) and Dr. HAYEM (Paris) then read contributions dealing with the Indications and Counter-indications for Blood-letting; Dr. LANDOUZY (Paris) read a paper on Saline Injections in Therapeutics; while Professor STOKVIS (Amsterdam) and Dr. LÉPINE (Lyons) asked the meeting the important question, Should Fever be Combated?

In the sub-section of Materia Medica Dr. THOMS (Berlin) made an interesting communication upon Solanum; Dr. VAN AUBEL (Liège) discussed the Active Principle of Digitalis; and Dr. BOURQUELOT (Paris) read a practical paper upon the Deterioration of Medicines through Oxidation.

The most important contribution to the sub-section of Pharmacology was made by Sir T. LAUDER BRUNTON, who read a paper upon the Physiological and Therapeutic Action of Digitalis and of its Active Principles.[1]

NEUROLOGY.

Importance of the Speech-Inhibiting Power of the Auditory Centre for Language.

Professor PICK (Prague), in the course of his remarks on this subject, mentioned as a well-known fact that persons in whom word-deafness (*surdité verbale*) had suddenly developed itself suffered, in addition to paraphasia, from a special infirmity which had been called logorrhœa; they mumbled (*bredouillent*) spontaneously for a long time without cessation, and they repeated the same performance every time that the speech centre was stimulated—as, for instance, by a question being asked. Two explanations of this phenomenon had been given, but the most probable one was that logorrhœa was a consequence of the loss of an inhibitory function belonging to the auditory centre.

Pure Motor Aphasia without Agraphia.

M. P. LADAME (Geneva), in commencing his paper on Aphasia, said that confusion had been caused by the want of a sufficient distinction between aphasias and anarthrias. Anarthrias resulted from a lesion of the projection neurons which constituted the motor bundles of the phonation apparatus. Aphasias, on the other hand, were caused by a

This paper is printed in full on p. 477.

lesion of the association neurons, these neurons being either intra-cortical, inter-cortical, or trans-cortical, and trans-hemispheric or commissural. In ordinary motor aphasia the greater part of the channels of communication of Broca's convolution were more or less affected and the resulting symptoms were in relation with the complication of the lesions. In pure motor aphasia without agraphia—i.e., pure aphemia—the lesion was localised in the association neurons which placed Broca's centre in connexion with the phonetic centres in Rolando's convolutions in both hemispheres. The association fibres which connected the foot of the third frontal convolution with the motor centre for writing remained in that case quite free. Clinically, pure motor aphasia without complications of any kind was characterised by the loss of the faculties (1) of voluntary speech, (2) of repeating words, and (3) of reading aloud. The faculties which were retained were those (1) of spontaneous writing, (2) of writing to dictation, (3) of copying, and (4) of understanding words either spoken or read; the "*langage intérieur*" was, in fact, not interfered with. M. Ladame classified motor aphasias as follows: A. Pure motor aphasias. 1. Pure aphemia without agraphia. 2. Pure agraphia without aphemia. B. Complex motor aphasias. 1. Common motor aphasia (motor aphasia with or without agraphia, with paralyses, monoplegias or hemiplegias, epileptiform attacks, contractures, &c.). 2. Sensory motor aphasia (different combinations of motor aphasia with word-blindness and word-deafness). 3. Aphasia with mental disturbance.

The Projection and Association Centres of the Human Brain.

Professor FLECHSIG (Leipsic), in his paper on this subject, said that his researches had led to a division of the cerebral cortex into sensorial spheres (sensorial centres) and association centres (intellectual centres or organs of thought). This division, however, was distinctly seen only in the human fœtus and the young child; it was founded on the employment of the myelogenetic method which investigated the details of the central fibres by tracing the history of their development. Nerve-fibres belonging to the same group received their covering of myelin at practically the same period, whilst those belonging to different groups were covered with myelin at different periods, succeeding one another according to a definite law. Proceeding on this principle, he had outlined on the cerebral cortex about 40 myelogenetic cortical regions which he had arranged in three groups—(1) regions of early development, (2) regions of late development or terminal regions, and (3) intermediate regions. This classification was not intended to modify or replace the previous division into sensorial centres and association centres, the principle of classification in the two being quite different. Comparative anatomy was of no assistance in this investigation, and the information given by the anatomy of the normal adult brain was very imperfect in comparison with that derived from the anatomy of the brain of the fœtus or the new-born child. From the purely anatomical point of view the cortical regions might be divided into projection centres and association centres. Prof. Flechsig distinguished four projection centres—(1) the sphere of bodily sensibility, (2) the visual sphere, (3) the auditory sphere, and (4) the olfactory and gustatory sphere. Each of these spheres, except the auditory sphere, was formed by combining several myelogenetic cortical regions. The sphere of bodily sensibility contained eight, and each of the others contained three. Moreover, the sphere of bodily sensibility (called also the tactile sphere, the sphere of general sensation) occupied an area rather larger than that which Prof. Flechsig had assigned to it; at the level of the first frontal convolution it came several centimetres further forward. The anterior segment (about two centimetres long) of the gyrus supra-marginalis ought also to be added to it. The gyrus subangularis constituted a new projection field which Prof. Flechsig had discovered last of all; it showed in the structure of its cortex the characteristic features of the sensorial centres. Prof. Flechsig at first distinguished four association centres: (1) the frontal centre; (2) the parietal centre; (3) the temporal centre; and (4) the insular centre. At a later period he united the temporal and the parietal centres in a single centre—the great posterior association centre. A projection centre which was proved to exist in the gyrus subangularis reduced these two united centres to the posterior portion of the second temporal convolution; they were of no great breadth. Apparently there was some ground for retaining the early division into temporal centre and parietal centre. In the parietal and temporal centres it was particularly easy to make out a subdivision into peripheral zones, arriving early at complete development, and into central regions, attaining the adult state later. The same sub-division was evident in the frontal association centre, but the arrangement was more complicated. The peripheral zones touched the sensorial centres and were united to them by numerous fibræ arcuatæ. The insula and the præcuneus seemed to consist only of peripheral zones. Perhaps the peripheral zones constituted transition forms between regions rich in corona radiata and those which had none. Sometimes, although very rarely, atypical bundles of the corona radiata were found on the peripheral zones; they represented aberrant projection fibres. Such isolated observations in no way proved the general and regular presence of bundles of the corona radiata in the peripheral zones. The central regions of the association zones (especially the middle part of the gyrus angularis, the third temporal convolution, and the anterior half of the second frontal convolution) were to all appearance the nodal points of the long association systems, whilst the peripheral zones presented these characters in only a small degree. The central regions were all of them terminal regions; they were essentially characteristic of the human brain. Their destruction in isolated portions was never accompanied by phenomena manifesting any disturbance of motor power or sensibility. Phenomena of motor excitation by which these lesions might be accompanied ought to be interpreted as actions at a distance. The central regions of the association zones were centres which were in relation more or less direct each with several sensorial zones and some with all; they probably combined the functional activities of the sensorial zones. When they were destroyed on both sides the mental power was weakened and the association of ideas was particularly interfered with. The central regions were therefore to all appearance of great importance for the exercise of the faculties of the mind, for the formation of mental images composed of several sensorial operations for the performance of acts such as the naming of objects, reading, &c. These functions were disturbed with special regularity in morbid conditions of the posterior association centres. Clinical observation justified the division of the cerebral cortex into sensorial centres (projection centres) and association centres.

Professor HITZIG (Halle) said that Professor Flechsig's theory of the existence of projection centres and association centres possessing different functions in connexion with the cerebral cortex was based on the following considerations. 1. The alleged existence of projection fibres in the former and the absence of projection fibres from the latter. This assertion, however, could not be maintained in its full extent, for Professor Flechsig had abandoned it himself as regarded one part of his centres of association, and other observers declared that they had seen projection fibres coming from the association centres. It appeared certain that some regions of the cerebral cortex possessed a much smaller number of projection fibres than others which for their part were in more or less direct connexion with the terminations of the sensory or sensorial nerves. 2. The order of succession in the myelinisation of the projection centres and the association centres, as well as in that of the different projection centres in particular. This assertion, like the preceding one, could not be maintained in its full extent because Professor Flechsig himself had found discrepancies which he attributed to pathological influences, but which his opponents with equal right believed to be physiological. 3. The differences in the anatomical structure of various projection centres and the differences in the anatomical structure of the projection centres and the association centres. The opinions of the various authorities being entirely discordant, it was impossible to form a positive opinion on this subject. Professor Flechsig endeavoured to solve the questions connected with the function of the sensory centres by the perception of irritations proceeding from various sensory surfaces and by the association of them with mental images. He supported his views by arguments drawn from pathological observations, such as tactile paralysis, sensory aphasia, &c. In this part of the subject Professor Hitzig was disposed to agree with Professor Flechsig. The function of the association centres was found by Professor Flechsig in the retention of memorised images and in the reproduction and association of them, either by stimulation of adjoining sensitive spheres or perhaps by stimulation of other association centres. He considered them to be the real organs of mind and thought.

Professor Flechsig's views on this part of the subject appeared to be quite hypothetical. His hypothesis of memorised images laid up in certain groups of cells was not in any way proved. With these exceptions the work of Professor Flechsig and the line of argument which he had followed were to be regarded as marking a real advance in the knowledge of the structure and functions of the organ of thought. He would have done better if he had expressed himself less dogmatically.

Professor C. VON MONAKOW (Zürich) said that the theory of association centres and projection centres advanced by Professor Flechsig in 1895 had since that time been essentially modified and extended by its author in an article published in the *Neurologisches Centralblatt* of Nov. 1st, 1898. In this article, which marked a real advance in embryological research, Professor Flechsig divided the surface of the brain into 40 regions in which myelinisation took place at different periods; moreover, he entirely abandoned certain opinions which he had stoutly maintained not long before. The anatomical question involved was this: Were the projection fibres really much less numerous in the association centres than in the sensorial centres? The results at which Professor Monakow had arrived were as follows. The projection fibres united in the corona radiata and spread all over the surface of the brain were in direct connexion with only a relatively small number of cortical points. In all the convolutions the projection fibres formed only a small fraction of the total fibres of the medullary substance. There were therefore all over the surface of the brain considerable spaces encroaching on one another where no projection fibres were to be found. The aggregate of these portions of the cortex thus devoid of projection fibres might be called association centres in contra-distinction to the scattered foci where the projection fibres met. It was, however, impossible to outline even roughly the regions which were poorly supplied with projection fibres and those which were rich in them. Professor Monakow, like other observers, had failed to perceive fundamental anatomical differences between the two kinds of regions in the hemispheres. Moreover, there were in other regions of the brain (the central grey substance) portions of small extent which were also devoid of projection fibres and in which it was not customary to distinguish projection centres and association centres. The arrangement of the fibres in the white substance of the brain did not follow a uniform plan. The division adopted by Professor Flechsig, who considered only the projection fibres of the sensorial tracts, did not take sufficient account of many portions of the brain which were anatomically well defined. For instance, it made no reference to the cerebellum, the locus niger, the nucleus of the tegmentum, the pulvinar, &c. Professor Monakow did not agree with Professor Flechsig's theory according to which all the projection fibres of a cortical sensorial tract became coated with myelin almost simultaneously, his own theory being as follows. Under the name of a neuron group (Neuronencomplex) he included all the individual neurons which unite with one another and progressively form coördinate systems (in the sense of Meynert's systems of different orders of projection) containing a number of neurons which showed a progressive numerical increase as they approached the cortex and of which the minimum was required to produce in the adult a nerve effect (the perception of light, for instance). A sensory tract was composed of a great number of these neuron groups, similar in their nature, of which the most centrally situated were the first to be covered with myelin, the peripheral ones being covered at a later stage.

Nature of Tendon Reflexes.

Professor E. JENDRASSIK (Budapest) read a paper on this subject, the summary of it being as follows: 1. The tendon reflexes were true reflex movements the path of which traversed the grey substance of the cord. 2. The patella reflex and the tendon reflexes in general were the result of a sudden, mechanical, momentary stimulation of the sensory nerves of the tissues surrounding the tendon and were not transmitted to the muscle by vibration of the tendon. 3. The patellar reflex and the tendon reflexes in general could not be put in the same category as other reflex movements. The ordinary cutaneous reflexes were reflexes the circuit of which included the brain and probably the cortex, whilst the reflex movements observed in paraplegics suffering from myelitis—namely, flexions of the thigh and leg and dorsal flexion of the foot (rarely any other kind of movement) produced by prolonged stimulation of the skin—were pathological reflexes resulting from a sort of overflow of the nerve-current prevented from finding its way to the brain or from an increased excitability of the nerve elements of the cord disconnected from the higher centres. 4. Muscular tonus had a great influence on tendon reflexes; if it was increased the reflex was more active; diminution of tonus might even abolish these reflexes. 5. The abolition of patellar reflexes in tabes was not sufficiently explained by current theories; it was very probable that the diminution of the muscular tonus was the ordinary cause of this abolition. 6. In disease of the brain abolition of the tendon reflexes was exceptional. 7. In disease of the cerebellum abolition of the tendon reflex had been observed in only a small number of cases. 8. Loss of the patellar reflexes was by no means a proof of a total transverse division of the nerve elements of the cord. 9. Abolition of the patellar reflexes in traumatic lesions of the cervical or dorsal portions of the cord was a clinical proof that the grey substance of the lumbar portion of the cord was also involved; this extension of the pathological process was not always demonstrable by ordinary histological means, but it was proved by the occurrence of severe trophic disturbances, such as acute bedsore, septic cystitis and pyelitis, vaso-motor affections, muscular atrophy, &c. The abolition of the patellar reflexes was therefore an unfavourable symptom except in the rare cases where the loss of these reflexes was caused by nervous shock. 10. The examination of the patellar reflexes was not always easy to make in paraplegia and it was not uncommon for appropriate means to succeed in eliciting this reflex in cases in which it had seemed to be absent.

Professor C. S. SHERRINGTON (Liverpool) said that two distinct sets of phenomena were included under this name—namely (1) true spinal and spino-cerebral reflexes from tendons; and (2) pseudo-reflexes commonly known as tendon phenomena or by British and American writers as "jerks." The former—i.e., No. (1)—were easy of explanation. The tendons of muscles, long ago recognised by Bichat as capable of affecting sensation, contained the end-organs of afferent nerves. These were the end-organs described by Golgi, by Ruffini, and others. These organs could be excited by mechanical means, probably mechanical strain was the stimulus which was their normal and adequate mode of excitation. The true tendon-reflexes were not of so much importance to clinical medicine as were the pseudo-reflexes (tendon-phenomena, "jerks"). The latter—i.e., No. (2)—was typified by the "knee-jerk." An objection to calling them "tendon-phenomena" was that the tendon was not essential to the phenomenon. That they were not true reflexes was shown by the time of the latency of the reaction being so brief as to exclude the possibility of reaction through a nerve-centre. The "jerk" was a direct response by the muscle to sudden mechanical strain. It was only when the excitability of the muscle was great that this direct response could be elicited from it. When the muscle was cut off from the spinal motor neurons which innervated it its excitability fell too low for the response to be possible. When the afferent spinal roots connected with the spinal tonus of the muscle were severed the excitability of the muscles also fell too low for the direct response to sudden mechanical strain. There was therefore necessary for the "jerk" the maintenance of the spinal tonus of the muscle. The reflexed arc on which the spinal tonus of the muscle depended was composed of the afferent nerve-fibres coming from the muscle (vasto-crureus, in the case of the "knee-jerk") itself and of the motor neurons innervating that muscle. The activity of that reflex arc could be exalted or inhibited by the activity of various other spinal and spino-cerebral arcs. Removal of the cerebral hemispheres led immediately to very great exaltation of the tonus of the vasto-crureus muscle traceable to exalted activity of spinal motor neurons innervating that muscle. The knee-jerk was then much exalted so that a rhythmic series of jerks might follow a single tap on the patellar tendon. On the other hand, the activity of spinal motor neurons innervating the vasto-crureus might be depressed by exciting the activity of the motor neurons which innervate the antagonistic muscles, the flexor muscles of the knee. The activity of these motor neurons of the flexors of the knee was habitually associated with some degree of inhibition of the extensor muscles of the knee. The most easy spinal reflex to obtain in the hind limbs by excitation of the limb itself was flexion of the limb at the knee and at the hip. Hence an easy way of causing inhibition of the

knee-jerk was to excite a reflex movement of the hind limb from some portion of the limb, because the flexors of the knee were brought into play and the activity of the motor cells of the extensors was then partly or completely inhibited. The inhibition could be peculiarly obtained by stimulating the flexor muscles themselves—e.g., the semi-membranosus.

Non-tabetic Lesions of the Posterior Columns of the Spinal Cord.

Dr. ALEXANDER BRUCE (Edinburgh) commenced his paper on this subject by describing the constitution of the posterior columns as shown by degenerations following: (1) lesions of nerve-roots; (2) lesions of the cord itself interrupting the continuity of the posterior columns; and (3) lesions of the grey matter. Passing on to the exogenous tracts, he said that the differentiation of Goll's and Burdach's columns depended on the termination of their long fibres in the nucleus gracilis and nucleus cuneatus respectively. Burdach's column commenced at the fifth dorsal segment. Goll's column had a definite and characteristic form at each segment, any departure from which indicated a partial involvement of its components. Kahler's law regarding the positions of the exogenous fibres in the columns was generally true but required some modification for the cervical and dorsal regions. It was applicable to descending branches of the roots also. The relative position of ascending fibres of roots, as far as known, was considered. The endogenous tracts were then discussed—namely, the cornu-commissural zone of Marie, the comma tract of Schultze, the septo-marginal tract (including the oval field of Flechsig and the triangular area of Gombault and Philippe), the descending tract of Hoche, and the postero-internal root-zone of Flechsig. It was shown that they were not purely endogenous but contained exogenous fibres also. The endogenous fibres of the cornu-commissural zone were short and degenerated upwards. Those of the comma tract degenerated downwards for several segments. Those of the septo-marginal tract were derived from segments as high as the eighth cervical and degenerated downwards. The postero-internal root-zone was mainly composed of root-fibres of indeterminate length which entered it horizontally in the sacral and dorsal regions and in the lumbar and cervical regions passed obliquely upwards into it. The areas of Flechsig were considered. Dr. Bruce then discussed the pathological changes in the posterior columns considered in relation to the diseases which involved them, taking as examples (*a*) progressive muscular atrophy of the Charcot-Marie type; (*b*) cerebral tumours which frequently produced degenerations in the posterior columns, sometimes interpreted as due to retrograde degeneration from the nuclei of the columns; (*c*) syringomyelia; (*d*) Friedreich's ataxia; and (*e*) combined sclerosis of the posterior and antero-lateral columns, including pellagra, ataxic paraplegia (Gowers) or ataxo-paraplegic tabes (Dejèrine), the combined system degeneration of German authors, and combined degeneration in grave anæmia. In pellagra, the sclerosis, according to Tuczek, affected chiefly the column of Goll and the middle root-zone, and spared relatively the cornu-commissural and the septo-marginal tracts. The roots, according to Tuczek, were healthy; according to Babes they were degenerated. Both these observers regarded the sclerosis as the result of the destruction of the nerve fibres by the direct action of some toxins. In ataxic paraplegia the lesions resembled those of sub-acute combined degeneration, but the disease differed from the latter in its much more prolonged course. The degeneration of the columns in grave anæmia seemed to be the same as those described by Rothmann as combined system-disease, and by Russel, Collier, and Batten as sub-acute combined degeneration. The lesion was most marked in the dorsal and the cervical region. It affected mainly the middle root-zone in the lumbar region and in the cervical and dorsal chiefly Goll's columns.

Dr. C. L. DANA (New York) said that the points of view from which the posterior columns of the spinal cord and the posterior spinal roots, so far as diseases were concerned, were studied were (1) diseases in connexion with the embryological areas; (2) diseases in connexion with the exogenous and endogenous fibres; and (3) diseases connected with the vascular supply. He gave a brief review of the non-tabetic lesions and then discussed the subject of acute ataxia due to spinal lesions, "acute spinal ataxia."

Dr. E. A. HOMÉN (Helsingfors, Finland) gave the results of observations made on 16 cases at the Helsingfors Pathological Institute.

Nature and Treatment of Acute Myelitis.

Dr. G. MARINESCO in his paper on this subject said that acute myelitis was characterised by a multiple process involving the vessels, interstitial tissue, and nerve cells. The pathological lesion of most frequent occurrence was hæmorrhagic softening, caused by toxic and infective agencies, of which the most important were the streptococcus, the infectious principle of rabies, and the pneumococcus. Dr. Marinesco had tried Marmorek's serum in the treatment of cases of streptococcal origin, but had not found it successful.

Differential Diagnosis of Organic and Hysterical Hemiplegia.

Professor D. FERRIER (London) in his paper on this subject said that hysterical hemiplegia might simulate hemiplegia due to organic cerebral disease, and there was scarcely a single symptom uniformly present sufficient of itself to enable one off-hand to differentiate the one from the other. A correct diagnosis was, however, in most cases possible, and this depended on a consideration of several factors, of which the more important were the following:—(1) the personal and family history; (2) the mode of onset; (3) the characters of the paralysis; (4) the course and termination; and (5) the state of the superficial and deep reflexes. Hysterical hemiplegia like organic hemiplegia might occur at all ages. The subjects of hysterical hemiplegia were individuals, male and female, of neurotic inheritance, and of the so-called hysterical temperament, and who had either been previously liable to hysterical attacks, or exhibited some of the permanent stigmata of hysteria, such as zones of hyperæsthesia or anæsthesia, or complete sensitivo-sensorial hemianæsthesia of the recognised type (Charcot). The subjects of organic hemiplegia were (apart from traumatism or autochthonous intracranial lesions) those predisposed by vascular, renal, or cardiac disease to cerebral hæmorrhage, embolism, or thrombosis, of the existence of which it was generally possible to obtain evidence by careful clinical investigation. Hysterical hemiplegia occurred most commonly after some great nervous disturbance, such as emotional shock, or after an epileptiform or apoplectiform attack (so-called hysterical apoplexy), simulating cerebral hæmorrhage. In hysterical hemiplegia the upper or lower extremity might be more or less completely powerless and flaccid, but the face was rarely so. Such affection of the face as occurred was usually of the labio-glossal spasmodic type (Charcot) on the same or the opposite side. The leg was usually more affected than the arm, and in walking the paralysed leg was dragged like an inert mass and not circumducted as in organic hemiplegia (Todd's symptom). In the majority of cases hysterical hemiplegia was associated with complete sensitivo-sensorial hemianæsthesia. Hysterical hemiplegia might last an indefinite time and continue of the same flaccid character throughout. In hysterical hemiplegia the deep reflexes were not necessarily altered, and true ankle clonus was rare, whereas in organic hemiplegia the deep reflexes became unavoidably exaggerated and ankle clonus was the rule.

Professor W. ROTH (Moscow) dealt chiefly with the characteristic symptoms of organic hemiplegia, arranging them in the following order. 1. Aphasia in any of its forms might be present and was not difficult to distinguish from hysterical mutism. 2. Conjugate deviation of the eyes was marked by the amplitude of the movements of the eyes towards the paralysed side being diminished and often continuing so for a long time. Sometimes this diminution manifested itself only in voluntary movements, but did not occur in reflex unconscious movements or if the patient followed with his eyes an object which had a lateral motion. 3. Facial paralysis might be "systematic" and might show itself only in imitative movements. Facial paralysis was excessively rare in hysterical hemiplegia; what was generally seen was a pseudo-paralysis, a hypotonus united to a hypertonus, with characteristic little jerking movements of the muscles of the opposite side of the face. 4. The paretic deviation of the tongue and the typical difficulty of articulation were in proportion to the degree of paralysis of the tongue. In hysteria the deviation of the tongue presented itself in a variety of well-known capricious forms (hemispasm, systemic paresia, deviation to the opposite side). 5. The relative intensity of the paralysis of the limbs and of the muscular groups of a limb was usually typical. Certain attitudes and the manner of walking were characteristic. 6. Associated involuntary movements of the paralysed extremities might occur. 7. The

evolution of the paralysis in cases not preceded by a fit usually presented characteristic features. 8. The paralytic symptoms had a tendency to diminish. 9. The contractures were characteristic. 10. The exaggeration of the tendon reflexes and bone reflexes (jerking movements of the patella, hands, and feet) corresponded to the muscular hypertonus. Reflex jerking movement of the foot might, however, show itself exceptionally in hysterical hemiplegia. 11. The superficial reflexes were of less value, with the exception of Babinski's toe phenomenon. 12. Hemianæsthesia was less marked than paralysis, and the degree of anæsthesia was not necessarily the same over the entire half of the body, but there were none of the abrupt and capricious transitions seen in hysteria.

PSYCHIATRY.

Treatment of Insanity by Rest in Bed.

Dr. CLEMENS NEISSER (Leubus) in his paper on this subject said that this system of treatment would inevitably have the effect of assimilating lunatic asylums to hospitals. Rest in bed was not a specific for mental diseases any more than for febrile diseases; but it was indicated in all cases of acute illness and also in the treatment of persons whose general behaviour was disorderly or excited, and in mania, melancholia, epilepsy, general paralysis, &c. When recovery had reached a certain stage the patient must be allowed to get up, for if kept in bed too long he might perhaps refuse to leave it (*manie du lit*).

Dr. S. KORSAKOV (Moscow) spoke very highly of this method of treatment, but said that it must not be enforced too strictly in the case of patients who were feeble-minded or predisposed to apathy, anæmia, and masturbation.

Dr. JULES MOREL (Mons) said that the treatment of insanity by rest in bed was originated by Dr. Guislain in 1852; it was adopted in Germany in 1854 and in the United States of America in 1878. Dr. Morel devoted a considerable part of his paper to the advantages of having well-trained attendants.

Sexual Perversions from a Medico-legal Point of View.

Professor KRAFFT-EBING read a paper on this subject, at the close of which he said that persons who were proved to be under the influence of obsessions or irresistible impulses could not be held responsible for their actions. In the event of failure to prove that the culprit's impulse was irresistible his culpability ought to be reduced as far as the law would allow on the ground that he was, through no fault of his own, suffering from mental degeneration.

The Pathological Anatomy of Idiocy.

Dr. G. E. SHUTTLEWORTH (Richmond) and Dr. FLETCHER BEACH (London) presented a paper on this subject in which they said that as far back as the time of Hippocrates the physical characteristics of idiocy were noticed. Pliny, too, in his "Historia Naturalis" mentioned the macrocephali, and Talpius ("Observationes Medicæ") had a chapter on hydrocephalus which he had seen associated with idiocy. Willis, in his "Collected Works," in the part dealing with the anatomy of brain (English edition) described and figured the brain of a young man completely imbecile, the size of whose brain was scarcely one-fifth of that of an ordinary man (microcephalus). Pinel ("Traité sur l'Aliénation Mentale") also described and gave illustrations of two cases of microcephalus, and Gall and Spurzheim in their Atlas accompanying their "Anatomie et Physiologie du Système Nerveux en Général et du Cerveau en Particulier" gave plates not only of microcephalic heads and crania, but of hydrocephalic crania, in one case of a cretin and in the other of an imbecile child. The above remarks had reference to the size of the head. As regards the form, bony deformations were noticed by Meckel in "Mémoires de l'Académie de Berlin," published by him in 1760. With respect to conformation, Tulpius ("Observationes Medicæ Rariores") remarked that the convolutions were less numerous, and Malacarne ("Encephalotomia Nuova Universale") stated that the lamellæ of the cerebellum increased or diminished according to the development of the intelligence. As regards the organisation, Meckel (1760) remarked that in idiots there were dryness and hardness of the cerebral substance, and Bonnet and Haller reported tumours and ulcerations in the brain and cerebellum. Finally, Esquirol ("Des Maladies Mentales") noticed that the convolutions were small, atrophied, compact, and thin, and that the lateral ventricles were of small capacity. Apparently the first observers dwelt most on the size and shape of the head as causes of idiocy, the structure of the brain being noticed at a later period. Modern authors were of opinion that pathology and classification were mutually interdependent. According to this view Dr. Shuttleworth and Dr. Beach classified the anatomo-pathology of idiocy under three chief heads—viz., (*a*) congenital formative defects; (*b*) developmental cases; and (*c*) acquired cases. Under the first head they placed (1) microcephalus; (2) hydrocephalus; (3) scaphocephalus; (4) *mongol* imperfections of the osseous, cutaneous, mucous, and in some cases cardiac tissues; (5) neuropathic *genetous* cases, in which the convolutions were coarse and simple, or were small, slender, and curling (microgyry); (6) amaurotic *genetous* cases; (7) sporadic cretinism, due to defective structure or absence of the thyroid gland; and (8) partial local defects, such as defects of the corpus callosum, or porencephalus. Cases illustrating some of the foregoing types had been reported by them and by Marshall, Ireland, Telford-Smith, Spiller, Vogt, Otto, Schrœder van der Kolk, Bruce, d'Astros, Jastrowitz, Hammarberg, Klinke, Sachs, Koplik, and Kingdon assisted by Risien Russell. Under the second head they included (1) eclampsic cases with hæmorrhagic or inflammatory lesions; (2) epileptic cases, the views of Bevan Lewis, Andriezen, Batty Tuke, and Echeverria being given; (3) syphilitic and juvenile general paralysis cases, the opinions of Clouston, Mott, and their own being quoted; and (4) paralytic cases in which there were degenerative changes in the vessels of the brain or in some cases atrophy of the brain. These cases might be due to birth-palsy, to palsy coming on after whooping-cough, or to inflammation. The opinions of Schrœder van der Kolk, Freud, Telford Smith, and of themselves were given. Under the third head were comprised (1) traumatic cases due to pressure on the head during labour owing to abnormal narrowness of the pelvis, prolonged labour, or less often the use of the forceps, and lesions produced by accidents; (2) post febrile inflammatory cases (under this subhead was placed hypertrophic idiocy, a monograph on which subject had been published by one of them); and (3) sclerotic idiocy, a disease first described by Bourneville in 1882. The changes in the brain observed in this disease were noted by Dr. Wilmarth in 25 out of 100 cases, and had been noted frequently by Dr. Beach, who not only described the changes already observed but also hyperæmia, softening, tumours, and disease of the membranes of the brain; asymmetry of hemispheres and convolutions; alteration in relation of grey to white matter of the brain; simplicity of convolutions, thickening of the arteries; thrombosis; disease of the cerebellum and spinal cord; and anomalies of the convex surface and base of the cranium in Tuke's "Dictionary of Psychological Medicine," 1892. The microscopical appearances of idiocy had been observed and noted by one of them, and by Bevan Lewis, Andriezen, Mierzjewski, Hammarberg, and Bourneville.

Mental Disturbances of Puberty.

Professor MARRO (Turin) in his paper on this subject presented his conclusions as follows. 1. Puberty had an important influence on the mental state of the individual and this influence might be manifested either (*a*) by investing previously existing mental disorders with features which up to that time they did not possess or possessed in only a minor degree or (*b*) by creating a tendency to mental derangement. 2. Among the mental disorders from which young persons of both sexes might suffer at the period of puberty the hebephrenia of Hecker was one which might be regarded as specific on account of several symptoms which it shared with other mental disorders being combined in it and in no other form of mental aberration. 3. The symptoms exhibited in this condition and the changes found on post-mortem examination proved that the cerebral cortex and the membranes were the seat of a morbid anatomical process. The initial symptoms tended to show that the condition might with some probability be considered as originating in a process of auto-intoxication due to disorders of the alimentary tract. 4. Puberty and the precocious and abnormal exercise of the generative functions might give rise to other morbid manifestations which permanently influenced the disposition of the individual in a peculiar way, although increasing age and life under favourable conditions might obliterate the evidence of them. 5. For the prophylaxis of mental derangement the greatest attention must be paid to the avoiding of all weakening influences which interfered with the development of the physical and mental

organisations at this important period of life, such as excessive bodily or mental fatigue, and, above all, the precocious and abnormal exercise of the sexual functions.

Dr. JULES VOISIN (of the Salpêtrière, Paris) also read a paper the substance of which was as follows:—1. The term "psychoses de la puberté" denoted mental derangements which were developed during the period of puberty, that is between 14 and 22 years of age. This period was characterised by sexual maturity, and by the physical and mental development of the individual. 2. All the varieties of mental derangement might show themselves at this period. Hebephrenia as a morbid entity did not exist. The term "hebephrenia" ought to be reserved for cases of dementia. Mental disorders developed at the initial stage of puberty were less serious than those developed during the progress of puberty or at the end of it. The former ought to be called mental disturbances of puberty and the latter mental disturbances of adolescence. 3. Hereditary predisposition was the principal cause of these affections; it was the incomplete intellectual development of the individual associated with his hereditary taint that gave to the disease its peculiar character called hebephrenia. ..... 7. Premature dementia (hebephrenia) described by Kahlbaum and Hecker presented itself under two forms, of which one was severe and one was slight. The symptoms of the former were stupor, dementia, catatonia, and mental confusion. This rendered its diagnosis difficult. The slight form or premature simple dementia must be distinguished from progressive general paralysis and spasmodic epileptic dementia. 8. The mental confusion was a "délire de rêve," or dreamy delirium, which had much analogy to alcoholic delirium. This dreamy delirium was the characteristic of mental disturbances of auto-intoxication and it was almost certain that disorders of nutrition during adolescence were the causes of this delirium. Recovery took place in half of the cases; it was generally preceded by *crises*, profuse perspiration, diarrhœa, salivation, menstruation, abscesses, boils, &c. 9. Progressive general paralysis in the young was distinguished from progressive general paralysis in the adult by the absence of grandiose ideas and by its slower course.

Professor ZIEHEN (Jena) read a third paper on the subject in which he said that from a consideration of about 400 cases of mental disease, the first symptoms of which dated from the period of puberty, that is from the age of 13 years to about the age of 21 years, he had arrived at the following conclusions. 1. Mental morbidity attained one of its maxima at the age of puberty, and the tendency thereto was increased by hereditary taint. Apart from heredity it was principally anæmia, bodily and mental overwork, acute infectious diseases and sexual excesses which played an important part in the causation of the mental disturbances of puberty. 2. Almost all the known mental disturbances were met with at the time of puberty. The special influence of puberty showed itself only in the greater prevalence of certain mental disorders and in the symptoms and course of mental derangement being often (but not always) modified in a certain manner. It was a mistake to speak, as some authors had done, of a special mental disorder of puberty which would include the majority of the cases of mental disease occurring at that period. The only mental disorder which belonged almost exclusively to puberty, the dementia hebephrenica or hebephrenia of Kahlbaum, occurred in only a relatively small number of cases. 3. Apart from hebephrenia the most common mental disorders of puberty were *folie circulaire*, mania, melancholia, acute paranoia, wild hallucinations (amentia of some authors), and hysterical and epileptic mania. ..... 5. The prognosis of the insanity of puberty was in general worse than that of insanity occurring after puberty. 6. The treatment of the insanity of puberty did not in general differ from that of insanity occurring subsequently to puberty. Complete confinement to bed was, however, admissible only for cases where there was much exhaustion. Regular occupation, bodily and mental, for each hour of the day was of the utmost importance. Narcotics should be avoided as much as possible. Great caution was necessary in keeping such patients in association with adult lunatics.

Dr. RÉGIS (Bordeaux) remarked on the important part played by auto-intoxication in the causation of the insanity of puberty.

Dr. MABILLE (La Rochelle) said that he had observed various forms of mental disorder at the age of puberty but was not satisfied that there really was an insanity of puberty possessing special clinical features.

Dr. TOKARSKI (Moscow) said he thought that the previous speakers had not paid sufficient attention to certain psychical signs of hebephrenia, such as theatrical attitudes, pathetic demonstrations, &c.

Dr. TRENEL (Rouen) remarked on the difficulty of diagnosing premature dementia.

Dr. BENEDICKT (Vienna) mentioned the importance of sexual abuses (platonic or actual) in the production of the insanity of puberty.

Dr. GILBERT BALLET (Paris) made a distinction between (1) mental disturbances occurring during puberty and (2) the mental disturbances of puberty. The former were of ordinary occurrence: the others seemed to have clinical features approaching those which had been described by Kahlbaum. He preferred the term *folie d'adolescence* to the term *folie pubérale*.

DERMATOLOGY AND SYPHILOGRAPHY.

The Parasitic Origin of Eczema.

Dr. P. G. UNNA (Hamburg) commenced his contribution to this subject by pointing out that the doubt which existed as to the organisms which gave rise to eczema was in part due to the absence of a classification of micrococci. Up to the present time the micrococci had been classified unscientifically, so that species were confused which had very different pathological actions. He considered that one method of arriving at a better classification of micrococci would be to study more exactly special methods of staining. In order to prove that an eczema was due to a micro-organism it was above all necessary to prove that the dermatological lesions produced by the inoculation of the supposed microbe were identical with those of a true eczema. Among the many micro-organisms which were found to be present in an eczema there were many which on inoculation gave rise to an eczema. The first thing to do was to distinguish the different varieties of eczema which were due to the action of different microbes. Dr. Unna stated, in conclusion, that it was certain that eczema was a contagious disease and under certain circumstances epidemic.

Professor JADASSOHN (Berne) first defined the terms "parasitic" and "eczema." He then detailed the results of some researches on the subject under discussion undertaken by Dr. Frédéric of Berne. In most eczemas no micro-organisms could be found, or at all events not such as could be considered pathogenic. As in many other skin affections common micro-organisms invaded the inflamed area and might give rise to more or less important secondary changes.

Dr. JAMES GALLOWAY (London) said that the present wide use of the term "eczema" rendered it necessary to define the condition dealt with. His own investigations had been limited to "acute papulo-vesicular eczema." He had taken four cases and these had been submitted to careful bacteriological examination, the earliest lesions being chosen so as to avoid contaminating influences as far as possible. From all four cases a white coccus was isolated, though in one of the cases some moulds were found, and in another staphylococcus aureus. The white cocci which occurred in the four tubes seemed to show some slight differences, especially with regard to the power of liquefying gelatin and to the tendency to grow in masses or in smaller groups, but they were all examples of what would be readily recognised in the laboratory as the staphylococcus pyogenes albus. After many cultures the cocci still were pathogenic to mice, but the degree of virulence was not great. The conclusions at which he had arrived were the following:—1. That cocci producing white cultures were present in early and uncomplicated lesions of papulo-vesicular eczema, but that these cocci, though varying in minute particulars in different strains, were not sufficiently differentiated to distinguish them from the staphylococcus pyogenes albus. The micrococcus described by Dr. Unna fell into this category. The descriptions given by him were not sufficient to distinguish it as a separate species. There was still less evidence to consider this organism as the specific organism causing eczema. In later stages of eczema other organisms made their appearance so that the coccus yielding white cultures might even be crowded out of existence. The most important of these organisms was no doubt the staphylococcus pyogenes aureus. 2. It appeared that in the production of eczema more than one factor was at work, though the presence of such organisms as those mentioned, which were well known to have pyogenic powers, must be an important

factor in every case. These organisms did not grow in such enormous numbers on injured surfaces without producing some result and from the knowledge of their effects in other situations the result must be noxious. The local infectivity and chronicity of eczema were probably mainly due to the presence of the organisms mentioned. 3. Other factors, however, were probably concerned in the production of any attack of eczema and of these two appeared to be of much importance: (*a*) the predisposition of the skin usually associated with the seborrhœic state, to the free growth of many varieties of vegetable parasites (this was probably the most effective of all the conditions of susceptibility or of lowered resistance in the causation of eczema); and (*b*) the clinical evidence seemed to be conclusive that certain conditions of imperfect metabolism predisposed to the onset of eczema, or at any rate to its occurrence, and of these the most common were those associated with improper digestion and assimilation of food.

Dr. L. BROCQ (Paris) and Dr. VEILLON (Paris) communicated a paper of which the first part contained a discussion as to what conditions should be included under the word "eczema." They excluded many forms, such as seborrhœic eczema and the dermatoses resulting from traumatism, and limited the term "eczema" to a condition commencing by the formation of vesicles, which might be well-marked or ill-developed, with a special evolution. The authors of the paper then gave a historical account of the question up to the present time and proceeded to describe their own researches, the results of which were as follows. Recent unopened eczematous vesicles contained no microbe which could be detected by microscopic examination or by cultures, but old broken vesicles contained many micro-organisms, especially staphylococcus aureus, though a streptococcus and a staphylococcus albus were also found. If a layer of sterilised oxide of zinc were placed on a disinfected patch of eczema although the vesicles continued to develop they were free from germs. If a culture of the staphylococci from an eczematous patch were inoculated on to another part of the body of a patient suffering from eczema they did not give rise to an eczema. Their final conclusions might be stated as follows. 1. In the present state of knowledge they could not admit the existence of a specific microbe in eczema, although it might be allowed that a micro-organism might exist which could not be detected by microscopical examination or by cultures. 2. The typical primary lesion of eczema—the vesicle—did not contain any microbe which could be found by bacteriological methods. 3. The different microbes (especially the staphylococcus) which grew in abundance on the weeping or scabbed surfaces in eczema constituted secondary infections which were the cause for the most part of the complications and suppurations which so frequently supervened on true eczema.

Tuberculides.

The discussion on this subject was opened by Dr. C. BOECK (Christiania) who pointed out the reason for classing together these diseases. It was recognised that there was a series of cutaneous affections which were generally very symmetrical, and which were found so often in tuberculous patients that it must be concluded that there was some causal connexion between these diseases and tuberculosis. Koch's bacillus was never, or very rarely, found, and inoculations of a guinea-pig never, or quite exceptionally, gave rise to positive results. The theory which had been formed to explain these facts was that these lesions were produced by the toxins of the tubercle bacillus which formed them in the lymphatic glands and in the viscera. The facts accorded very accurately with this theory. True tuberculosis of the skin was asymmetrical, but the tuberculides were strikingly symmetrical, and appeared to be the result of the action of the toxins on the vaso-motor centres. Symmetry was the most important characteristic of a tuberculide; the exact character of the lesions was a point of much less importance.

Professor ROBERTO CAMPANA (Rome) pointed out that the skin was very sensitive to the action of the toxins of tuberculosis, but the skin had a great resisting power to the tubercle bacillus, and this was the result not of its structure but it was due to the fact that the skin contained very little oxygen, so that the bacillus was obliged to live an almost anaerobic life, which was very inimical to its vitality. The proof of this hypothesis was to be found in the great rarity of the bacillus in primary tuberculosis of the skin. He did not think that it was possible to distinguish clinically between skin lesions produced by the toxins and those produced by the bacillus itself; though he admitted that a general intoxication with tuberculous products might well be the predisposing cause of certain cutaneous manifestations of external origin which might simulate true tuberculous manifestations.

Dr. J. DARIER (Paris) said that there existed a group of skin lesions to which the name of "tuberculides" had been applied and which possessed the following characteristics: first, that they were clinically connected with tuberculosis, for they were only seen in patients already infected by Koch's bacillus or reasonably suspected to be infected; and secondly, in the immense majority of cases the local lesions of the tuberculides did not seem to contain the tubercle bacillus—in fact, with hardly an exception bacteriological examination and experiment had not succeeded in proving the presence of this bacillus. Dr. Darier proceeded to enumerate the diseases which might be considered to be tuberculides. He then described the forms in which the tuberculosis bacillus might be present, showing that a very careful search was sometimes needed to prove the presence of the disease. The clinical characters of the tuberculides were so very various that it was difficult to give a general description of them, but it might be said that they usually appeared suddenly without fever; that they were often symmetrical; that all parts of the body might be attacked; that the lesions were generally of a reddish purple or livid tinge; that they were painless but tender to the touch; and that they might undergo various forms of evolution. He gave three hypotheses to explain these diseases: (1) that they were due to unknown microbes, which required for their development a soil impregnated with the products of Koch's bacillus; (2) that they were due to the toxins of the tubercle bacillus; and (3) that they were the results of multiple embolisms of attenuated tubercle bacilli. Dr. Darier was rather inclined towards the last of these three theories.

Alopecia Areata.

Professor O. LASSAR (Berlin) opened a discussion on this subject and expressed the opinion that in alopecia areata there was no such thing as predisposition or special power of resistance in certain persons; neither could immunity from the disease be acquired. The nervous theory of origin had lost ground more and more. Even the isolated facts met with in dermatological literature which seemed to afford some support to this theory had little force. The localisation had no reference to nervous tracts; it might be unilateral, bilateral, or general. The parasitic theory was the most consistent of all those which had been brought forward to explain the disease. The theory of contagion agreed well with the appearance of the disease in families, in schools, and in barracks, and with the formation of groups of the disease in connexion with shaving and hair-cutting. Also the way in which it spread in each patient was like that in which diseases due to a microbe spread. However, the organism itself had never yet been found. The treatment of the disease was practically only empirical.

Professor PAVLOV (St. Petersburg) said that alopecia areata was probably more common in Russia than was usually thought to be the case. He himself had seen about 150 cases in 10 years. There had been nothing in the history of the cases which he had seen to suggest contagion as the cause, and he had never seen it spread epidemically, although he did not take any precautions to prevent it. He was convinced from his clinical observations that the disease was connected with various troubles of the nervous system, and the truth of this was impressed upon him by the manner in which the disease progressed and by the results of his treatment. Alopecia areata always developed in persons whose nervous system was specially irritable, and it followed generally on mental disturbances, grief, worry, or injuries, and sometimes it seemed to be due to reflex irritation from a distant organ. The affected hairs, on microscopical examination, showed merely atrophy. Some bacteriological cultures of the affected hairs gave two negative results out of 10 cases, and in the remaining eight pure cultures of cocci were found resembling the staphylococcus pyogenes aureus and albus. The inoculation of these cultures in rabbits led to the formation of a patchy baldness with redness and scales.

Dr. NORMAN WALKER (Edinburgh) was of opinion that, although the nervous origin of alopecia areata must be given up in most cases, there were a few which were due to nerve influence. In these the patches were very irregular in

shape, the skin was smooth and glossy, and there were very rarely any "exclamation point" hairs. As to the infective theory, Dr. Walker had met with about four cases in which a possible source of infection existed. In all his cases, by cultures he obtained Sabouraud's "porcelain" growth, and in only two cases did the "brick-red" growth follow; in all, after from two to four weeks a deep brownish-black colour developed.

Dr. SABOURAUD (Paris) in the first place put aside various forms of baldness to which the term "alopecia areata" should not be applied. He considered that of those to which this term was rightly given there were at least two different clinical types. The first was the alopecia areata of Celsus (area Celsi), which was most common in childhood. It began in the occipital region, spread circumferentially through the scalp, and disappeared at puberty. Hereditary influence was definite, and contagion was infinitely rare if it ever existed. The second form (Bateman's) occurred in middle age, the initial patch being followed by secondary patches at a distance. All the patches were circular and the surface was infected with seborrhœic bacteria. In these contagion was still rare, but it was possible and certain. He laid great stress on the differentiation of these two forms, though he acknowledged that in practice it was impossible sometimes to decide into which group to put a certain case.

Dr. LÉON PERRIN (Marseilles) read a paper on Leucoplakia, pointing out how many different conditions were included under the name and showing that they were all produced by the reaction of the epithelium against a mechanical irritant.

Syphilis and Associated Infections.

This subject was introduced by Dr. L. DUNCAN BULKELEY (New York), who classified the conditions as follows. First into cases of double coincident infection. These were again divided into cases of syphilis with a local lesion and cases of syphilis with a general disease. The other cases where syphilis was associated with some other disease were those in which the two infections were not coincident, and these were divisible into those in which the syphilis appeared before the associated diseases and those in which the syphilis appeared after the diseases with which it might be associated. The points to be considered were how far the associated diseases might retard, accelerate, or modify the normal course of one another.

Professor A. DUCREY (Pisa) said that the subject had practically no limits. He thought that it would be useful to consider first, the association with syphilis of local diseases such as a soft sore, which never gave rise to general manifestations; secondly, the association with syphilis of diseases such as gonorrhœa, which were usually local but which sometimes became generalised; and, thirdly, the association with syphilis of true general infections such as the infectious fevers and leprosy. With regard to the soft sore and other local septic conditions, the association with syphilitic manifestations seemed to increase the gravity of the specific lesions, suppuration and gangrene being more likely to occur. In the case of the hyphomycetic fungi such as the ringworm fungi Dr. Ducrey was inclined to think that the trichophyton found a syphilitic soil favourable for its growth. Gonorrhœa in men did not seem to affect or to be affected by a coincident syphilis, except that the complications affecting the epididymis and testis appeared to predispose to syphilitic disease of the same organs. In women a gonorrhœal vulvo-vaginitis seemed to hasten the appearance of, and to render more severe, local syphilitic lesions. Little was known about the mutual action of syphilis and the eruptive fevers. When syphilitic children had measles and scarlet fever the mortality was heavy, but this was chiefly due not so much to the syphilis itself as to their condition of general weakness, especially as most of them were hand-fed. Typhoid fever seemed to weaken or even to destroy syphilis, at least so far as external manifestations went; but cases of syphilis did occur which seemed to be unaffected by the typhoid fever. Erysipelas, especially when severe and long continued, hastened the resolution of syphilides and sometimes seemed to put an end to the disease. Puerperal septicæmia was more common and more severe in syphilitics, but if the woman recovered from the septicæmia the syphilis seemed to be diminished. Syphilis and tubercle appeared generally to have a harmful effect upon each other so that the manifestations of each were more severe and more acute than when either disease occurred apart. When malaria was associated with syphilis the latter was markedly more severe; this was probably due to the great general depression caused by the malaria. Syphilis and leprosy could co-exist without any apparent modification of either.

Dr. H. HALLOPEAU (Paris) limited the term "associated diseases" to those which modified or were modified by syphilis. Often infectious diseases progressed in a syphilitic subject without influencing the syphilitic manifestations or being influenced by them. The general conclusions at which Dr. Hallopeau arrived were as follows. That certain infections by associating with the syphilitic poison could give rise to various hybrid forms; these were the bacillus of the soft sore, the agent which gave rise to epithelioma, and rarely the bacillus of tubercle. It was possible, but it had not yet been proved, that the mixed infection of syphilis and pyogenic organisms gave rise to suppurating syphilides which might be called streptosyphilides or staphylosyphilides. The organisms and their toxins could modify the characters of syphilitic eruptions and caused "parasyphilitic" affections, giving rise to severe complications. The activity of the syphilitic poison might be modified temporarily or permanently by the co-existence of certain generalised infections; this was especially true of erysipelas.

The Descendants of Congenital Syphilitics.

Professor B. TARNOWSKY (St. Petersburg) presented a table based on data furnished by 25 syphilitic families with their descendants to the fourth generation. He arrived at the following conclusions:—1. The hereditary influence of acquired syphilis showed itself in its greatest severity in the second generation of syphilitics, and caused a large number of miscarriages and stillbirths, of early deaths, and of children showing signs of congenital syphilis or with various forms of malnutrition. 2. The influence of syphilitic heredity decreased markedly in the third generation, causing many but fewer miscarriages, stillbirths, and other manifestations of congenital syphilis. 3. Syphilis acquired in the first generation was not transmitted to the third generation in the form of manifestations recognised as due to congenital syphilis. In the same way the immunity against the syphilitic virus was not transmitted to the third generation. 4. Parents, the father or the mother, with the symptoms of congenital syphilis, either at the time of conception or in the course of pregnancy, did not transmit to their children hereditary syphilis. 5. Syphilis never seemed to pass over a generation—i.e., it was never transmitted from the grandparent to the grandchild, while the children remained free from syphilitic signs. 6. A second generation of syphilitics showing no manifestations of congenital syphilis produced generally healthy offspring. 7. Hereditary syphilis of the third generation was generally due to a fresh syphilitic infection contracted by a member of the second generation. 8. "Binary syphilis"—i.e., syphilis acquired by a member of a second generation of syphilitics—exerted on the third generation a much more harmful influence than the syphilis of the first generation exerted on the second. 9. One of the chief reasons for the rapid degeneration seen where syphilis was endemic was certainly "binary syphilis." 10. The harmful influence of acquired syphilis seemed to cease completely after the fourth generation.

Professor E. FINGER (Vienna) held that in order to prove the transmission of syphilis to the grandchildren of syphilitics, it would be necessary to exclude completely the possibility of syphilis having been acquired by the second generation, and there should be absolute certainty of the presence of congenital syphilis in the third generation. Most of the 24 cases which had been described of this transmission of syphilis could not furnish the proofs required. The second question that had to be considered was the possibility of the transmission to the grandchildren of various dystrophies. This question was even more difficult to answer than the first, for many of these dystrophies occurred in families which were not syphilitic; and, moreover, if these dystrophies were really syphilitic in origin, they ought to be seen especially in cases of hereditary syphilis, but only a few of the cases of congenital syphilis manifested them. On the whole the action of syphilis on the descendants had less tendency to cause the degeneration of the race than to limit the number of descendants. A third point that arose was the question of the immunity of the descendants of syphilitics. There were several reasons for thinking that the descendants of syphilitics possessed some degree of immunity. Among them might be mentioned the fact that when syphilis became endemic it tended to become less severe; that when syphilis attacked a people hitherto free

from the disease it was usually in a severe form. But these facts and a few others which pointed in the same direction were not sufficient to prove any hereditary transmission of immunity. There were many other facts which showed that the immunity against syphilis, even in those who had acquired the disease, was much less great than was usually thought to be the case.

Dr. JULLIEN (Paris) had succeeded in collecting 92 cases in which syphilis had been transmitted to the grandchildren of those who had become infected with syphilis, and the following conclusions had been arrived at:—1. The syphilis had been transmitted to the third generation in 58 cases by the mothers who had had congenital syphilis and in 34 cases by the fathers. There was no loss of fertility, for in some of the families were seven, eight, eleven, and 15 children. 2. Abortions occurred in 33 per cent. of the cases, but this tendency to abortion was wonderfully amenable to specific treatment. 3. The syphilitic manifestations which were observed in these cases of the third generation affected the skin in various ways, the bones (as by caries), the viscera, and especially the brain, and the eyes (as by iritis). 4. There was much general debility in these cases and many of the patients died at an early age, and if they grew up they were liable to various nervous symptoms, such as convulsions and paralysis. They were also prone to have rickety affections of the bones, atrophic rhinitis, adenoids, and pulmonary tuberculosis. 5. The children of those who had suffered from congenital syphilis were rarely of normal build; they were small and thin, and the various parts of the body were not symmetrical. The skull was badly shaped, the palate was arched, and the teeth were badly formed and readily became carious. The mental functions were generally abnormal. 6. Anomalies and malformations abounded in these cases. In 261 of these children there were four cases of nævus, one of hæmophilia, one with congenital cysts of the neck, one cryptorchid, one with harelip, one with congenital amputation, one with polydactylism, and one with malformation of the iris. Dr. Jullien was inclined to attribute these signs and symptoms occurring in the third generation to the absorption by the fœtus of toxins through the placenta.

The Causes of the Generalised Infections in Gonorrhœa.

Professor LESSER (Berlin), who opened this discussion, considered that generalisation of the infection in a case of gonorrhœa occurred especially if there were complications. In the male in most of the cases of generalisation the posterior portion of the urethra was affected. There seemed to be a special predisposition to the production of a generalised infection, for some patients had a general infection every time that they had a fresh attack of gonorrhœa.

Professor P. TOMMASOLI (Palermo) said that the organism which gave rise to general infection in gonorrhœa might be the gonococcus itself or there might be a mixed infection, the gonococcus having, perhaps, prepared the way for the entrance of the other micro-organisms by lowering the general power of resistance. It was possible, though it was not necessary, that the microbes themselves should be present in the lesions of the generalised disease, for the toxins were probably capable of producing all the inflammations met with. There was, however, another point which had to be decided, and that was what special conditions were necessary, or at least favourable, for the microbes or their toxins to become capable of causing a general infection. Anything which weakened the general condition would predispose to generalisation of the disease; so, over-exertion, want of food, and alcoholism would all be favourable to general infection. Moreover, since the gonococcus preferred a slightly acid soil, it was probable that in acute rheumatism, in which there was an increase in the amount of acid, the soil would be more favourable for the growth of the organism.

Mr. A. H WARD (London) maintained that in all cases of gonorrhœa there was some absorption of toxins where they caused systemic degenerations of varying degrees of severity. The gonococcus itself might spread by continuity of tissue or might pass into the blood-stream, and this was rendered more easy by the action of the absorbed toxins on the leucocytes, preventing phagocytosis. The microbes in the circulation tended to become stranded in minute capillaries, where they developed and formed more toxin and gave rise to local inflammations. The invasion of the organism was favoured by all over-energetic treatment of the local infection, for this depressed the local power of resistance. Local treatment was always required, and should be free from instrumental, mechanical, or chemical violence.

Dr. F. BALZER (Paris) remarked that the chief tract by which the gonococcus infected the organism was the blood-vessels; and the gonococcus had been seen in the vessel walls and its presence in the blood itself had many times been proved. The toxin of the gonococcus (gonotoxin) was capable of producing many of the generalised effects of gonorrhœa. Other microbes might co-exist in the system with the gonococcus; staphylococci and streptococci, bacillus coli, the pneumococcus, the tubercle bacillus, and various other forms had been found. The more extensive the local disease the more was the generalisation of gonorrhœa rendered probable. The increase of the virulence of the gonococcus was sometimes much increased, especially during physiological processes such as menstruation, pregnancy, and parturition. The explanation of the manifestations of gonorrhœal generalisation was to be found chiefly in previously damaged tissues, for these were more liable to be attacked than healthy tissues. Thus, an old endocarditis favoured the localisation of the gonococcus in the endocardium. It was possible that some forms of arthritis were produced not by the gonococcus but by the toxins, and that others might be produced not by their direct action on the joint but by a trophic action through the nervous system. A nephritis might occur, and also various cutaneous manifestations.

III.—SURGERY.

RHINOLOGY AND LARYNGOLOGY.

Diagnosis of Laryngeal Cancer.

Professor R. FRAENKEL (Berlin) read a paper upon the Diagnosis of Cancer of the Larynx from an Anatomical and Pathological Point of View. He said that the microscopical examination of fragments of tissue taken from a tumour in the larynx was of the first importance as a means of diagnosing cancer. If the result of the examination was negative no certain conclusion could be drawn; on the other hand, if a positive result was obtained a diagnosis could be made with certainty. Difficulty arose from the fact that only very small pieces could be obtained. They should be hardened and embedded for cutting in paraffin and should be stained by Van Gieson's method or by picrocarmin. For a diagnosis it was not sufficient to find globular masses of epithelium, although this was very suspicious, but epithelial buds should be found in places where they should not normally exist. If epithelial processes were found continuous with the surface epithelium the diagnosis was still in doubt, for many other disease processes gave rise to similar outgrowths of epithelium, notably syphilis. Irregular structure of epithelium was a characteristic of cancer.

Dr. MORITZ SCHMIDT (Frankfort) followed with a paper on the same subject. He said that the symptoms of cancer of the larynx, such as pain, stenosis, and offensive odour, were not characteristic but were found in other laryngeal diseases. Cancer of the larynx, however, showed from its very commencement and throughout its course the characteristics of a tumour. Cancer arising in the deeper tissues of the larynx sometimes gave rise to a proliferation of true papillomas on the mucous surface. This form of cancer throughout its whole course had a very close resemblance to a perichondritis. Cases of cancer of the ventricle of Morgagni gave a laryngoscopic image almost exactly like that of an internal perichondritis. In very rare instances the cancer commenced at the back of, and almost underneath, the cricoid cartilage. In such a case nothing could be noticed at the beginning of the disease but paralysis of the recurrent laryngeal nerve. In order to exclude syphilis from the diagnosis it was generally sufficient to give during 15 days a daily dose of three grammes of iodide of potassium. It was possible to arrive at a definite diagnosis by examining microscopically a small piece of the growth. A curette forceps with the blades working up and down was the best instrument to use for this little operation. Only a positive result of the microscopic examination was conclusive.

Sir FELIX SEMON (London) regretted that the speakers had confined themselves to discussing the microscopic diagnosis and recommended a study of the clinical points.

Dr. MERMOD (Yverdon) followed in the same sense.

Dr. KRAUS (Paris) went so far as to say that he thought it wrong to attach much importance to the results of the microscopic examination of cancer of the larynx inasmuch as

such an examination gave no clue to the clinical type of the growth.

Dr. RUAULT (Paris) and Dr. LOUIS BAR (Nice) agreed with the last speaker, Dr. Bar pointing out that tuberculous and malignant disease of the larynx could exist in the same subject. But Professor FRAENKEL considered a microscopic examination the best basis on which to decide upon operation. He said that immobility of the vocal cords was a very rare sign in cancer.

Purulent Ethmoiditis.

Dr. HAJEK (Vienna) read a paper upon Purulent Ethmoiditis, which he defined as a disease of the ethmoid bone and the mucous membrane covering it, accompanied by a flow of pus. But when other affections were present, such as tubercle, syphilis trauma, or new growth, the disease was not called by this name. He divided it according as to whether the mucous membrane or the bone was affected. In the first category came acute catarrhal inflammations, chronic catarrhal inflammations, and an inveterate form of the last-mentioned which was characterised by a considerable growth of polypi. The bony form was divided into slight degrees of inflammation leading to rarefying osteitis and intenser forms which lead to necrosis.

Dr. BOSWORTH (New York) followed with a few remarks upon the treatment. He said that in purulent ethmoiditis the essential condition was one of imprisoned pus. Each of the trabeculæ involved constituted, as it were, a small abscess. There was but little tendency to a spontaneous cure. The prominent and practically the only indication was to open each and every cell and to release the imprisoned pus accumulation. If this be true the important consideration was as to the best method of accomplishing this end. They might use the gouge, forceps, snare, curette, scissors, burr, spoon, or other devices. In his own experience the end was best accomplished by first uncapping the ethmoid cells by the use of the wire snare écraseur and then breaking down the trabecular walls by means of the burr.

Dr. LUC (Paris) pointed out that the frequency of purulent ethmoiditis was not appreciated, while it was very rarely a solitary condition, being usually associated with similar inflammation of the frontal and maxillary sinuses. Where ethmoiditis was accompanied by inflammation of the frontal sinuses he opened the frontal sinus.

Dr. MOMET (Montpellier) thought that in early stages ethmoiditis could exist alone, but later a condition which he called "panethmoiditie" was reached when opening, curetting, and drainage were required.

Thyrotomy.

Sir FELIX SEMON (London) read a paper upon the Indications of Thyrotomy, which was published in full in THE LANCET of August 11th, p. 393.

Dr. SCHMIEGELOW (Copenhagen) read the following paper upon the Technique of Thyrotomy. He said that thyrotomy was an operation which must be preceded by tracheotomy and performed under profound narcosis. The tracheal cannula must be made so as to prevent the aspiration of blood during the operation. Hahn's tampon cannula was the best. After the larynx had been opened by an incision of the thyroid cartilage the pharynx must be plugged with a sponge to prevent saliva trickling into the larynx. The sensibility of the mucous membrane of the larynx could be dulled by the application of cocaine. The operation being concluded and all hæmorrhage arrested the tracheal tube was taken out and the interior of the larynx dusted with iodoform. The wound was lightly covered with lint and iodoform gauze, which were frequently changed during the first few days. The patient should lie with the head as horizontal as possible and at the end of five or six days the wound would have closed sufficiently to enable him to raise it.

Dr. GORIS (Brussels) read a paper upon the Immediate and Remote Effect of Thyrotomy. He said that with the object of getting as many results as possible he sent a message to various specialists asking them to tell him the age and the sex of their patients, the exact seat of the disease, the general condition of the patient at the time of operation, the method employed, and the results both immediate and remote. He received 105 answers which were divided up as follows: 62 operations were for malignant tumours of the larynx, 14 were for tuberculosis, 25 were for innocent tumours, two were for stenosis, one was for a foreign body, and one was for rhinoscleroma. Out of these 105 operations four proved fatal from pneumonia within eight days after the operation. Thus thyrotomy came within the category of operations which were fairly safe inasmuch as it gave a death-rate of 4 per cent.

Thyrotomy for malignant tumour.—Sex.—Malignant tumours affect almost exclusively the male sex. In his statistics out of 62 cases 55 occurred in males, three in females, and in four cases the sex was not stated. Age.—From this point of view the cases could be divided as follows: under 30 years, 0; between 30 and 40 years, 4; from 40 to 50 years, 14; from 50 to 60 years, 20; from 60 to 70 years, 18; from 70 to 75 years, 4; and age not given, 2. Effects upon the voice.—As a rule the removal of one vocal cord allowed the patient to make a certain noise afterwards. In some cases the voice remained good after the extirpation of one cord owing to the formation of a cicatricial band. Remote results.—Out of 62 cases he should say nothing of seven because in these the whole larynx was removed. He should also say nothing about six other cases which had occurred at too recent a date to be able to draw any statistics from them. There remained, therefore, 49 cases, giving the following results: still alive at the end of 10 years, one; at the end of from five to eight years, eight; and at the end of from three to five years, 14. That was to say, 23 cases in all, or a percentage of 46·9. There were also seven cases which lived on without any relapse, and so might be considered as cured.

Thyrotomy for tuberculosis.—The results of this operation were much less brilliant. Out of 14 cases only three could be considered as cured. In all the others the operation apparently increased the spread of the disease.

Thyrotomy for innocent tumours.—As regards the effect on the voice the results were variable, but on the whole they were good. The most frequent affection for which the operation was performed was diffuse papilloma. Out of two cases of stenosis one was cured, but in the other respiration was not improved. Finally, in a case of extensive rhinoscleroma Chiari obtained a perfect cure by excision of the swelling.

Spasmodic Rhinitis.

Dr. JACOBSON (St. Petersburg) read a paper upon Spasmodic Rhinitis. He said that this affection presented itself under many different forms which had not yet been sufficiently studied or differentiated. Hay fever was one of these forms which it was necessary to mark out with great precision. Hay fever should be considered only as one special form of spasmodic rhinitis, and those forms brought on by other causes should not be considered as hay fever. One form of spasmodic rhinitis was due to paralysis of the vaso-motor nerves. Other forms were caused by different kinds of intoxication. They attacked persons who were otherwise perfectly well and had no tendency to recur.

Vocal Nodules.

Professor CHIARI (Vienna) read a paper upon Vocal Nodules. He gave a description of them from the anatomical point of view, saying that they were generally situated on the free edge of the lower vocal cord. They were more often found in the anterior third and they were almost invariably symmetrical. They never ulcerated and sometimes they would spontaneously disappear. They were probably produced by acute or chronic catarrh of the larynx by over-use of the voice and sometimes by a faulty method of singing.

Professor KRAUSE (Berlin) followed with some remarks on the same subject. He said that these vocal nodules were generally due to a faulty method of production of the voice during singing but not during speaking. The trouble which these nodules give rise to consisted in an alteration of the singing voice at certain parts of the scale. In addition to this the voice got very rapidly tired while the patient was singing. The treatment he proposed was to give complete vocal rest and absolutely to forbid singing. If this treatment did not do good, and supposing that the interests of the patient imperatively demanded that he should get his voice back, the nodules might be removed by a surgical operation strictly limited to the affected parts.

Dr. CAPART (Brussels) followed with a paper on the treatment of vocal nodules. He divided the methods of treatment employed into hygienic treatment by drugs and treatment by operation. Many observers, he said, had argued that nothing was necessary to bring about a cure but complete vocal rest. They could not, however, trust altogether to this. Rest only improved the condition which was the cause of the formation of these nodules but had no effect on

the nodules themselves. Treatment by drugs was inefficacious or even dangerous and operative treatment should be always employed. The nodules should be removed either by a very fine pair of forceps or else by the galvano-cautery, but if the nodule was big enough to be caught by the forceps this method should be employed. After-treatment consisted in absolute vocal rest; no singing should be allowed for a month at the very least and the method of voice production must be altered.

Anosmia.

Professor ONODI (Budapest) read a paper upon Anosmia. He began by giving a very full account of the connexions of the nerves of the nose with the olfactory tract in the brain. He then continued: "We are now in a position to study the pathology and classify the various clinical forms of anosmia. I shall divide them into three classes: (1) essential anosmia, wherein the olfactory tract is attacked, whether at its centre or at its periphery; (2) mechanical or respiratory anosmia: and (3) functional anosmia. The first class may be due to various causes, such as inflammation of the olfactory tract leading to neuritis or atrophy of the olfactory nerves. Such diseases as influenza, syphilis, and chronic ethmoiditis are all able to bring about pathological modifications of the peripheral olfactory region. With regard to anosmia due to some central cause it may be brought about by any cause affecting the central nervous system, such as cerebral tumours, embolism, progressive paralysis, senile atrophy, and any other lesion directly affecting the olfactory tract. Sometimes, too, anosmia is due to various intoxications, such as those produced by tobacco, cocaine, mercury, lead, morphia, irritating gases, and many other substances. Mechanical or respiratory anosmia may arise from any cause which produces obstruction to nasal respiration, such as congenital narrowness of the nostrils, deviations of the septum, inflammatory swelling, tumours in the nasal fossæ, and foreign bodies. As regards functional anosmia, it is usually due to hysteria, but it may also be due to reflex influences, as, for instance, ovariotomy and menstruation. These few remarks show us that there are innumerable causes of anosmia, that we know very little about them, and that it is necessary to make a large number of accurate clinical observations so as to supply what is lacking."

OTOLOGY.

On Measuring the Power of Hearing.

Dr. F. SCHIFFERS (Liège) read a paper on this subject in which he expressed the following conclusions. That the watch and all similar indefinite instruments could not serve for an exact method of notation. All watches had not the same intensity of sound. The tuning fork was the best means of measuring the hearing power of a person under examination. The method consisted in employing the tuning fork to note how long the sound was heard on the affected side and on the unaffected side, and the result might be expressed as a fraction, of which the denominator represented the time of perception of the healthy ear, and the numerator that of the ear examined. For example, R. A. Do_2. 256. $\frac{9}{24}$. would mean that on the right side, the sound being conducted by the air, the tuning fork, with 256 vibrations to the second, could be heard for nine seconds, while it lasted for 24 seconds on the healthy left side. The examination by articulate language was necessary especially in children. The whispering voice was the best to employ and individual consonants and vowels should be used, excluding the sibilants.

Dr. ARTHUR HARTMANN (Berlin) read a paper on the same subject. The tests of hearing were intended to make the diagnosis more exact and to determine the degree of hearing power in order that the effects of treatment might be seen. It was necessary to determine the capacity of perception through the air and through the bones. The tuning fork was the only instrument to be employed, and the duration of perception of its sound should be recorded. The result of the test might be recorded as follows: C^2.512. $\frac{18}{48}$ A.—that is to say, the tuning fork which vibrated 512 times a second was heard by the healthy ear for 48 seconds and by the affected ear for 18 seconds, the sound being conveyed by the air. For the voice, which should be whispered, the words used and the distance at which they were repeated should be recorded.

Auditory Exercises for Deaf-mutes.

Professor URBANTSCHITSCH (Vienna) read a communication on this subject. Up to a recent date little attention had been paid to the auditory organs of deaf-mutes. The examination of deaf-mutes showed that they had a greater or less power of hearing, and it was very rare to find complete deafness of both ears, though they did not seem to understand what they heard. Moreover, deaf-mutes showed an utter lack of attention to auditory vibrations. The object of methodical auditory exercises was to awaken the attention to auditory impressions, to lead them to distinguish by hearing the sense of what they heard, and the gradual increase of auditory sensitiveness. Nearly all cases were suitable for these exercises, even cases of cerebro-spinal meningitis from which the patient had recovered. The exercises should go on until the deaf-mute could hear his own voice. The success of these exercises depended on the duration of the daily exercises, on the existing power of hearing, on the intellectual condition of the pupil, and on his application. In some cases it was possible to evoke little by little a trace of power of hearing in persons who seemed to lack it entirely. The exercises had a favourable influence on the pronunciation.

Dr. SCHWENDT (Bâle) also read a paper on the same subject. He considered it important in deaf-mutes to utilise the hearing power as much as possible, but not to the detriment of the lip language. He thought it desirable, in order to judge of the results of this method of treatment, to separate those who benefited by this method from those who were completely deaf.

The Surgical Treatment of Otic Sclerosis.

Dr. F. SIEBENMANN (Bâle), who read a paper on this subject, said that experience showed that surgical treatment of sclerotic otitis was useless, except when it resulted from suppurative otitis or from hypertrophic catarrh. From otic sclerosis several conditions had to be distinguished: (1) blocking of the Eustachian tube; (2) the remains of old otorrhœa; and (3) affections of the nervous system with involvement of hearing. To this last belonged the progressive deafness which came on between the ages of 40 and 50 years, and which had been called "presbyacousia." The early form of progressive deafness began generally between the tenth and twentieth years of age or between the twentieth and thirtieth years, rarely later. This was the true sclerosis of von Troeltsch, and consisted in the deposit of bone in the osseous labyrinth. The stapes became fixed, partly by contraction of its fenestra from the deposit of new bone and partly by the ossification of the annular ligament. A similar formation of new bone extended inwards and forwards to the end of the canal of the cochlea. Isolated foci might also occur in all the spirals of the cochlea or between them, giving rise to a nervous deafness. It was obvious, therefore, that it was impossible to treat such a condition surgically.

Dr. RICARDO BOTEY (Barcelona) maintained that surgical treatment in dry otitis should only be undertaken when auditory perception conducted through the bone was still preserved. Perforation of the membrana tympani and removal of one or all of the ossicles generally gave only temporary improvement. Surgical treatment was quite useless in this condition because otitic selerosis was a trophoneurosis, with the formation of bony tissue chiefly in the capsule of the labyrinth, around the fenestra ovales, in the canal of the cochlea, and even in the spirals of the cochlea, the endings of the auditory nerve being more or less affected.

Dr. MALHERBE said that he agreed with Dr. Siebenmann as to the great difference in the improvement obtained by the surgical treatment of dry otitis according as the sclerosis was either (1) secondary to catarrh of the hypertrophic variety, or (2) secondary to suppuration of the middle-ear, or (3) primary. On the one hand, in scleroses secondary to catarrh or to suppuration the improvement was, in Dr. Malherbe's experience, always very well marked. On the other hand, in primary sclerosis the results were variable, the degree of functional improvement depending exclusively on the extent to which the labyrinth participated in the sclerotic process. Dr. Malherbe also made some remarks on the progressive deafness of young persons referred to by Dr. Siebenmann as being the true sclerosis of von Troeltsch. He had often observed an early and rapid form of primary sclerosis which appeared to him always to originate in the tympanic cavity. He agreed with Dr. Ricardo Botey's opinion as to the uselessness of perforation of the membrana tympani, extraction of the ossicles and restoration of the mobility of the stapes, but he could not accept the view that the surgical treatment of dry otitis was a failure. In a

tropho-neurotic disorder great improvement could not be expected, but he thought that aural surgeons ought sometimes to be satisfied with small improvements provided that the patients were really benefited thereby. Dr. Malherbe spoke in favour of the petro-mastoid operation which he had often performed and he defended it against some adverse criticism by Dr. Laurens.

Dr. LOEWENBERG said that the rational treatment of sclerosis, a frequent cause of high degrees of deafness, ought to be based on an exact knowledge of the nature of the disease. In his opinion the treatises on otology which described it as a general atrophy of the lining membrane of the tympanic cavity associated with a patulous condition of the Eustachian tube were altogether in error. In a very large proportion of patients there was, on the contrary, catarrh of the tympanic cavity with enlargement and hypersecretion. On account of the want of success which had hitherto attended the treatment of sclerosis he thought that remedial measures ought to be directed chiefly against the catarrh which seriously aggravated the sclerosis and interfered with the hearing.

Professor POLITZER (Vienna) said that he had often observed that the lesions of sclerosis were localised at the level of the fenestrum ovale and that synechiæ were found in the tympanic cavity. He had met with forms of malignant sclerosis which advanced with great rapidity. He did not advocate either mobilisation or extraction of the stapes, neither did he think that in inflammatory cases advantage could be derived from operations by way of the Eustachian tube; these latter operations caused irritation and often made the hearing worse. He preferred either massage according to the method of Deltanche or vibratory massage.

The Causes and Treatment of Ménière's Disease.

Dr. MOLL (Arnheim) read a paper on this subject, in which he pointed out that there were so many conditions which could give rise to the giddiness, humming in the ears, deafness, and vomiting, which constituted Ménière's disease, that it was advisable to speak of Ménière's symptoms rather than of Ménière's disease. As to treatment, that must depend on the special cause of the labyrinthine irritation. To calm the hyperæsthesia of the labyrinth sulphate of quinine was of much value, given in small doses; also hypodermic injections of pilocarpine. The iodides were also useful. Surgical intervention to remove the cause might sometimes be of much service.

STOMATOLOGY.

Treatment of Pyorrhœa Alveolaris.

Dr. PIERGILI (Rome) said that any pathogenic diathesis favoured pyorrhœa alveolaris and on this account appropriate treatment must be adopted for even the mildest degrees of gout, diabetes, albuminuria, or rheumatism, also for anæmia, diseases of the nervous system, diseases of the heart, emphysema of the lungs, &c. This general treatment should precede the local treatment. Pyorrhœa alveolaris depended on sclerosis of the pericementum. At the commencement of the disease the gums were generally hyperæmic; the pericementum compressed between the root of the teeth and the alveolus very quickly became necrosed. The gums ought to be scarified and freed from any granulations (*fongosités*) which might be present. During the second period of the disease the gums became detached from the neck of the tooth and epithelium soon covered all its inner surface. Dr. Piergili not only excised the projecting parts of the gum but scraped the funnel-shaped space between the tooth and the detached gum so as to remove all the fragments of tartar, all the detritus of the pericementum, and the epithelium covering the inner surface of the gum. When the disease was very advanced and the pus very abundant he commenced the treatment by washing out the alveoli with an ordinary Pravaz syringe, using by preference a solution of corrosive sublimate (1 in 10,000); he had tried actol (lactate of silver) which is an admirable disinfectant, but he had given it up because it blackened the teeth. Dr. Piergili had found these methods of treatment very successful.

Correction of Deviations of the Teeth.

Dr. PIERMICHELE GIURIA (Genoa) said that the most favourable age for the correction of deviations of the teeth was from 12 to 16 years. The simplest apparatus and that which was applicable to the greatest number of cases consisted (1) of a plate of caoutchouc furnished with vulcanite pivots which pressed the irregular teeth into their proper place and (2) of elastic metal bands applied to the labial surface of the teeth and usually intended to exert counter-pressure. When there was insufficient space the remedy was either expansion of the dental arch or extraction of a tooth (the sixth or the fourth). In prognathous patients when the condition was idiopathic the deformity might sometimes be prevented by pressing back the front teeth with a caoutchouc plate and wires. For pathological prognathism Dr. Giuria described a variety of mechanical methods of treatment. In opisthognathous patients the molars and bicuspids might be covered with an indiarubber plate provided with pivots by means of which the front teeth were pressed forwards. In slight degrees of mordex apertus the molars might be filed or extracted. When the condition was well marked the angle of the mandible might be reduced by inserting a plate of indiarubber between the upper and lower molars and exerting continuous pressure by means of a bandage under the chin. Irregularities of individual teeth might be corrected by means of wires fixed to an indiarubber plate.

V.—STATE AND MILITARY MEDICINE AND SURGERY.

MILITARY MEDICINE AND SURGERY.

Prophylaxis of Syphilis in Armies.

A communication was read from Colonel J. LANE NOTTER, M.D. Dub., R.A.M.C., professor of hygiene at Netley, official delegate from the War Office to the Congress. The tables referred to were shown. He said:—

"The accompanying tables give, as far as the records will allow, the total syphilis, divided into primary and secondary, and total venereal diseases in certain divisions of the British Army. The four divisions chosen are—(1) home, (2) India, (3) Gibraltar, and (4) Malta. The total persons under observation have been 153,646 per annum, giving a total of 6,145,840 in all. From 1859 to 1868 venereal disorders were classed as enthetic diseases. From 1869 to 1878 non-syphilitic venereal diseases were all collected under the diseases of the urinary tract; the figures for these years will be therefore about 10 per 1000 more than they should be. From 1879 to 1885 the non-syphilitic diseases were entered under the two heads gonorrhœa and the sequelæ. From 1886 to 1898 they are classed as soft chancre and gonorrhœa, and the total primary syphilis and soft chancre form the group primary venereal sore. If we look at Tables I., II., III., and IV. the first striking feature is the great excess of syphilitic and of venereal cases occurring in India and the low admissions in Malta.

"*Home.*—Taking the home figures first it will be observed that there was a gradual diminution in the number of admissions for syphilis from 1859 to 1876. From 1876 to 1884 the admissions rose so that in the last year they were as high as in 1867. From 1884 to 1898 there has been a gradual and practically constant fall. From 1866 to 1886 the Contagious Diseases Act was in force in 14 stations. As has been often pointed out, the admissions were lower in these 14 stations than in 14 similar stations during the operation of the Act. In spite of the Act, however, the admissions in the protected stations gradually rose after 1874 until 1884, the admissions in 1884 being only five per 1000 of the strength less than in 1860. After the abolition of the compulsory examination of the prostitutes in 1883 the admissions rose considerably, but the rise appears to be only the continuation of that which was taking place the previous year. Since 1886, when the Contagious Diseases Acts were finally repealed, the curves of the 14 previously protected, 14 non-protected, and whole strength are nearly parallel and show a steady fall. If we consider the total admissions for all venereal diseases or the admissions for primary venereal sores the same steady fall is seen. There seems to be no doubt, therefore, that quite independently of all regulations in the home stations syphilis has constantly declined. The reasons for this decline are probably not far to seek. In 1873 the Education Acts were adopted and it is significant that 12 years after this adoption the fall really began. The increase of education affects both the soldier and the prostitute. In the case of the soldier he has greater liking for intelligent amusement and greater self-restraint. The prostitutes on account of their education become of a higher order and therefore are more likely to endeavour to keep themselves in good health, or to endeavour to get cured

of venereal diseases which they contract in the pursuit of their calling. In addition to this there is less drunkenness in the army and with this decrease there will be a corresponding decrease in venereal diseases. In addition, the prostitutes are able to get proper medical advice at some or other of the various medical charities which abound throughout the country. With increasing education and a higher social and moral standing in the Army there is every prospect that the decline will continue. No regulations, therefore, can with reason be recommended.

"*India.*—A glance at Table II. shows that in India neither syphilis nor total venereal diseases have decreased since 1886 except during the last two years, but that on the whole there has been an increase in both figures. The years 1892–1896 show a very marked increase. Upon consulting Table V. it is seen that there has been a similar increase in the primary venereal sores and that this increase has been caused almost entirely by the excess of admissions for primary syphilis. It is quite evident, therefore, that the same influences are not at work in India as at home. In the first place the conditions are not the same, for although the army is practically the same the prostitutes are totally different. The Indian prostitutes are largely hereditary and have a separate caste, so that they are not looked upon by their fellows as outcasts; in fact, there are castes upon whom they look down, it being an insult to a prostitute to term her a common sweeper. They are totally uneducated and there is no doubt that they belong to a much lower type than their English compeers. In 1897 the inefficiency in the army from venereal diseases had reached such a great amount that the East India Cantonments Act and Regulations were introduced. These regulations differ very considerably from any regulations which were previously in force. The chief provisions are that the cantonment authority may, so far as the funds permit, provide and maintain as many hospitals and dispensaries as may be necessary, that all poor sick suffering from any contagious or infectious disorder may be treated gratuitously at the hospital or dispensary either as an in-patient or as an out-patient, that any person not eligible by reason of poverty may be treated upon such terms as the cantonment authority think fit to impose, and that if the medical officer in charge of such hospital or dispensary has *prima facie* grounds for believing that any person living in the cantonment is suffering from an infectious or contagious disease he may, by notice in writing, call upon such person to attend at the hospital or dispensary and not to quit it without the permission of the medical officer unless and until such medical officer is satisfied that such person is not in fact suffering, or is no longer suffering from, such disorder. That if any person having received a notice to attend refuses to do so, or having attended leaves without permission, the commanding officer may direct such person to remove from the cantonment and prohibit such person from re-entering it. That the cantonment authority may prohibit the keeping of a brothel or the residence of a public prostitute in the cantonment or in any special portion thereof. That no public prostitute shall be permitted to reside within the limits of any regimental bazaar situated in the cantonment, and that no person shall in any street or public place within the limits of the cantonment loiter for the purpose of prostitution or importune any person to the commission of sexual immorality. It will be seen that these provisions are in no way penal. Provisions are made for the prevention of venereal diseases somewhat similar to those for the prevention of the spread of such diseases as small-pox at home. If a prostitute having, or presumably having, a venereal disease declines to go to the hospital or dispensary she has the alternative of leaving the cantonment. In the hospital she is treated as an infectious patient and not as a prisoner, as in the old Lock Hospital, and the cantonment authorities are instructed to see that the spirit of the Act is carried out and that great caution must be observed in respect of the attendance at, or detention in, a hospital or dispensary, so that any respectable persons who will themselves adopt measures for the prevention of the spread of the disorder from which they are suffering shall not be detained in the hospital. The cantonment authorities are further authorised to make arrangements for and to encourage the prostitutes voluntarily to submit themselves to an examination. The Cantonment Act was put into operation in October, 1897, and in 1898 the admissions for primary syphilis fell to a point which is lower than in any year since 1888. It is perhaps unfair to attribute it to the enforcement of the Act entirely, but the fact is significant. The Act is on its trial and whether the decrease will be maintained remains to be seen. Upon one thing all the Indian authorities are agreed, that some regulations are absolutely necessary on account of the impossibility of obtaining any immediate increase in the moral or social standard of the prostitutes themselves.

"*Gibraltar.*—Table III. shows that the total venereal admissions, although not so high as in India, are much higher than those for the home stations—that is, during recent years. The admissions for primary syphilis are erratic. The comparatively high rates from 1880 to 1885 are very noticeable and not easy of explanation. In Table V. the analysis of the high curve of admissions for primary venereal sores is very strange when compared with the other three curves. As a whole the curve of the primary syphilis admissions is considerably below that for both the home stations and India, whereas that for soft chancres is in excess of all the other divisions. Although the rate for syphilis is satisfactory, especially during the years 1894, 1895, and 1896, and though even in 1897 and 1898 the rates are below those of any of the other divisions, the total admissions for venereal sores are inordinately high and the loss in efficiency is therefore very great. Compulsory weekly examination of alien prostitutes by the medical officer was instituted in May, 1883, and repealed in July, 1887. The issue of certificates of health after voluntary examination ceased in November, 1888, and police inspection was stopped in January, 1889. There seems to have been but little effect following either the institution or the repeal of these measures. As there is no tendency for the total venereal rate to fall spontaneously, as in the home stations, it is necessary to adopt some measures to prevent the constant high inefficiency from these disorders. It would be advisable to adopt some part of the East India Cantonment Act and Regulations. For instance, the medical officer should have power to demand the attendance of any person suffering from any contagious disease at the hospital and failing the attendance the person in question should be required to leave the station. The poorer persons should have the opportunity of being treated gratuitously by the authority.

"*Malta.*—Table IV. shows that in Malta the admission rate for all venereal diseases has been lower in Malta from 1859 to 1896 than in all the other divisions. During 1896, 1897, and 1898 the rate is higher than in the home stations, but considerably lower than in Gibraltar or India. In Table V. it is seen that the curves for primary syphilis and soft chancres cross one another and that during the past five years the admission rate for the former has been in excess of that for the latter. The rate for soft chancres is lower than in India or Gibraltar but rather higher than that in the home stations. In Malta the motion to repeal the Contagious Diseases Acts was lost in the House of Deputies, so that these are still in force. It is perhaps not just to compare the Malta figure with the home figures on account of the great difference between the strengths, but it is significant that with the exception of the last three years the rates for total venereal and primary syphilitic diseases have been lower in Malta than in the home stations. The modified cantonments regulations which had been suggested for Gibraltar might well be tried in Malta. There is nothing in these regulations which interfere with the liberty of the subject more than the laws which affect the infectious diseases in Great Britain, and these are surely very necessary interferences. Further, the prostitutes are not to be treated as criminals, but merely as sick patients, who can be treated either gratuitously or at small charge for their illness.

"To summarise, the methods of prophylaxis to be recommended are: (1) general; and (2) specific. The general methods are the education of the soldier in the subject of contagious disease, the encouragement of physical or intellectual amusements, and the inculcation of self-restraint. The specific methods are the wise administration of the Cantonment Acts in India and of a modified form of these Acts in Malta, Gibraltar, and other similar stations."

THE LATE DR. H. MARSHALL.—A memorial brass has been placed by some friends of the late Dr. Henry Marshall in All Saints Church, Clifton, with which church the deceased had been prominently identified since its foundation.

THE TENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

(FROM OUR SPECIAL CORRESPONDENT.)

THE OPENING CEREMONY.

BY two o'clock in the afternoon of Friday, August 10th, the largest amphitheatre of the École de Médecine was nearly full with expectant members of the Tenth International Congress of Hygiene. The platform was decorated with red velvet and gilt braidings and flowers, and was soon occupied by well-known sanitary reformers. A few minutes after 2 o'clock, the Prime Minister, M. Waldeck-Rousseau, accompanied by Dr. Brouardel (the President of the Congress), Dr. A. J. Martin (the general secretary), and many others entered. Indeed, the platform proved too small and several members who should have taken their places by the side of the presidential chair were obliged to hunt for seats in the already crowded amphitheatre. It appeared that there had been a great increase in the number of members within the last few days, but that it was too late to obtain a larger hall. Professor BROUARDEL was the first to speak and he expressed his thanks to M. Waldeck-Rousseau for presiding over the meeting, as his presence would show that the Government sympathised with the efforts of the Congress to improve the public health of all countries. He then expressed his gratitude to the foreign members of the Congress and assured them that in the cause of hygiene they would find no frontier demarcations. All nations would benefit from their labours, and indeed it was only necessary to visit the great exhibition to realise that they had done so already. If, for want of technical knowledge, the visitor failed to appreciate all the improvements, he need only look at the statistical tables which set forth how the mortality had decreased in proportion to the sanitary reforms achieved. This was more particularly shown by the exhibits of the United States and of Germany. The latter country displayed a map of Europe which at a glance indicated how the prevalence of small-pox had been reduced where vaccination was rigorously practised. It had been said that a century hence the civilisation of a people would be judged by the number of cases of small-pox occurring in its population. The same remark might be made with regard to typhoid fever, and where disinfection was rigorously practised there the prevalence of infectious fevers was much reduced. In Paris that reduction was during the last 10 years equal to 25 per cent. The century which commenced with Jenner and closed with Pasteur promised still greater progress for the future. With the use of antitoxin the deaths from diphtheria had been reduced by four-fifths, and large wards in the Paris hospitals which had been reserved for cases of this disease had to be closed for want of patients. In England the prevalence of tuberculosis had been lessened by one-half, and England paid the lightest tribute to this disease of any country. To England and to Germany the world stood indebted for a great example—the one nation by its sanitary legislation and the other by its economic legislation had very materially reduced their death-rates. The engineer and architect in England, and the compulsory insurance with its pensions and sick fund in Germany had made all Europe anxious to do something of the same sort. The work was great; it must be begun at school and continued by the press. The nations must be taught that if sanitation was at times expensive it had never failed to keep its promises. Its laws, however, had not yet been sufficiently applied to the poorer classes. Of all social questions this was the most urgent. The new century would continue the good work, particularly as they might now rely on a more active support from the Governments.

THE GOOD DONE BY HYGIENIC CONGRESSES.

The General Secretary (Dr. A. J. MARTIN) reported that no sooner had the Congress at Madrid decided that it would meet next time in Paris than the French committee set to work. Through the Minister of Foreign Affairs application was made to foreign Governments to form local committees, and these committees had materially assisted in giving the Congress its present representative character. Some 1500 members had been enrolled and three-quarters of them were delegates representing Governments, universities, municipalities, and other organised bodies. For the discussions of the Congress 56 reports had been submitted to the sections and most of them were now in print and distributed. They comprised the whole evolution of the century If many of the facts adduced were not new they in any case constituted useful evidence. Thanks to the generosity of the town of Paris it had been possible to print these reports. Dr. Martin then went on to review the practical results achieved by the various international congresses of hygiene. The first was held in Brussels in 1876, with the result that the Brussels Bureau of Hygiene then created had become a model institution for all Europe. Two years later a similar impulse was given in France by the presence of the second Congress held in Paris during the Universal Exhibition of 1878. The third Congress met in Turin, and since that day there had been a great improvement in sanitary legislation and in the death-rate of Italy. In 1882 they met in Switzerland, and in 1884 in Holland. At these Congresses Pasteur and Koch spoke and the prophylactic measures based on their discoveries were widely adopted. In 1885 they were at Vienna and the sewerage works of that capital were taken in hand. In 1889 they came to Paris more especially to see the results of Pasteur's work. After their meeting in London in 1891 notable efforts had been made in England to improve the housing of the poorer classes. At Budapest they gave a special welcome to Dr. Roux, who had just produced his anti-diphtheritic toxin; while finally, at Madrid, they had infused new life and hope among the Spanish sanitary reformers. What the results of the present Congress would be it was as yet too soon to say; but they might rest assured that wherever the Congress met there sanitary reforms would follow.

THE PROMISES OF THE PRIME MINISTER.

The President of the Council of Ministers, M. WALDECK-ROUSSEAU, now rose and read his speech. In the name of the French Government he welcomed the members of the Congress. They had already met twice in Paris and he was glad of this opportunity of rendering homage to the praiseworthy and useful work they had accomplished. Hygiene was quite a modern science. It dated back barely more than 50 years. Preventive medicine was most complex and this might be explained by the fact that it could be considered as the crown of all natural sciences. The discoveries of physicians, of chemists, and of engineers were the materials out of which hygiene was constructed. But to realise the ingenious theories of the hygienists the help of the State was needed. They had every right to rely on such help. This declaration was greeted with loud applause. M. Waldeck-Rousseau continued: "You are the most valuable and indispensable collaborators of all governments. You are the guardians of public health—that is to say, of the most precious gift a State can possess. For too long governmental and parliamentary initiative has neglected the elaboration of indispensable sanitary laws. For too long the incontestable right of the State to impose upon the individual necessary preventive measures which, while protecting his health preserve the public welfare, has been overlooked and misunderstood. The rights of the individual, badly interpreted, have prolonged this delay. It is a matter of education and the democracies will insist that such education shall be given." The presence at the Congress of so many distinguished foreigners is a guarantee that the work of the Congress would summarise what the civilised world had done. "Our best reward," he said, "will be the confidence you will have of seeing your theories applied by those who are in power. You may rest assured that so far as we are concerned and in the measure of our forces, your confidence will not be misplaced."

This handsome promise was loudly applauded; and it is all the more precious as it was not due to the enthusiasm or impulse of the moment, but had been deliberately written down beforehand in the carefully elaborated set speech which M. Waldeck-Rousseau read out.

Dr. CALLEJA spoke on behalf of Spain, recalling that he had been a student in that amphitheatre and had learnt to look upon France as his second country.

Dr. KOHLER, for Germany, said much had been done, but much more remained to be done. The fruit of their teaching would ripen in the next century. The Tenth Congress of Hygiene stood between the two centuries, and he hoped its deliberations would help to render the twentieth century a century of sanitary reform.

Professor CORFIELD, on behalf of Great Britain, also recalled the fact that he had been a student in that amphitheatre. He lamented the fact that at several of the previous Congresses the British Government had not been represented. Then at last the War Office had sent one delegate. Now on this occasion there were no less than five official representatives of the British Government attending. This, he thought, was a big improvement, though he was utterly unable to explain how it had been brought about. Perhaps the British Government had at last grasped the fact that there was something serious in these Congresses; or, perhaps it was because since the Congress had met in London many dwellings, he might almost say palaces, had been built for the working-class. In any case, they were now five Government representatives, and if they continued to increase in the same ratio they would be 25 at the next Congress.

Dr. VAN IVAMA-STERNNEGG of the Austrian Statistical Bureau, Dr. BARTOLETTE of the United States Army, and a representative of the Russian Government having said a few words, M. WALDECK-ROUSSEAU expressed his gratification at having heard so many cordial remarks from the foreign delegates. He thought that the French Faculty of Medicine should be proud of the fact, rendered manifest that afternoon, that so many illustrious teachers of hygiene coming from different countries had been its former pupils. The meeting now terminated and the members hurried off to the *fête* and garden party to be given at the Elysée by the President of the Republic.

EXCURSION TO THE ACHÈRES SEWAGE FARM.

On August 12th some 300 members of the Congress were conveyed by special train to the plains of Achères situated on the banks of the Seine close to the forest of St. Germain. This municipal estate measures 10 kilometres in length and one kilometre in width. It is irrigated throughout with the crude sewage of Paris. The train did not stop at the station but at the extreme western end of the estate. Here three narrow-gauge trains conveyed the members to various points of interest. In 1895 a visitor to Achères would have seen the sewage from Paris just beginning to arrive. The greater part of the plain seemed like a vast desert. The small brushwood which formerly served to conceal the game—for the Emperor Napoleon III., and after him Baron Hirsch, used to shoot over these grounds—had been cleared away and nothing had yet grown in its stead. The contrast to-day is most remarkable. The barren plain is now verdant with luxurious vegetation. Beetroot is growing over a large part of the ground, but there are also many fields rich with golden grain. The avenues are planted with trees, mostly walnut. Of course they are still young and small, but they are healthy and flourishing. The greater part of land is let out to cultivators, but the municipality has kept a portion in its own hands for experimental purposes and to lay out a few ornamental parks and to plant orchards. It was at these spots that the members of the Congress stopped so as to stroll among the flower-beds, admire the peaches and other fruits ripening on the trees, and above all to visit the ornamental waters; these were as clear as crystal. Fish darted rapidly about, and as the water came out of the earth in little jets glasses were filled and the water was eagerly drunk by nearly all the visitors. Yet this was neither rain-water nor spring-water: it was the water of the Paris sewers. What this meant was evident to all, for close by on the surface of the soil in countless little drains the black foul sewage was exposed to view. But having fed the plants and having passed through more than six feet of sandy soil the water collected at the lower levels is found to be quite free from the sewage. The sewage, which contained 11,750,000 bacteria per cubic centimetre, retained but 2350 bacteria in one part of the estate and only 188 in another part—that is, of course, after it had filtered through the soil. The purified sewage water at Achères is more free from bacteria than is usually the case with good spring water. In regard to organic matter, where the amount extracted from the sewage weighed 34·9 grammes, after passing through the soil this water only retained 1·8 grammes. The object, however, is not to produce drinking-water out of sewage but to prevent the pollution of the Seine by the crude sewage. For this purpose the town of Paris now possesses 900 hectares at Gennevilliers, 1000 hectares at Achères, 2150 hectares at Méry-Pierrelaye, and 950 hectares at Carrières-Triel—a total of 5000 hectares. As it is calculated that 40,000 cubic metres of sewage can be treated per hectare per annum, 200,000,000 cubic metres of sewage can be turned in the course of the year on to these estates; and as yet the sewage of the town of Paris does not exceed 180,000,000 cubic metres per annum, so that it is only the storm overflow that now goes direct into the river; and the Seine, which had been contaminated by the Paris sewage as far down as Rouen, is at last free from this great source of pollution. On the other hand, the sewage is no longer entirely wasted; it produces luxuriant crops, and at Achères there is a large distillery where the beetroot is converted into alcohol. All this was explained and shown to the members of the Congress, who were not only greatly edified by the practical success of this gigantic enterprise but were also charmed by the artistic taste shown in the laying-out of the gardens, by the beauty of the flowers, by the artificial rockery around the ornamental waters, and by the general prosperity, fertility, verdure, and brightness of the scene. After some light refreshments served at the distillery, and having travelled over the entire estate in the narrow gauge trains, the members reached the station of Achères, where the special main-line train was waiting to conduct them back to Paris. The entire cost of this agreeable and instructive expedition was defrayed by the Paris municipality. M. Beckman, M. Launey, and M. Louis Musson, the principal municipal engineers, accompanied the party and were busily engaged all the time in giving explanations to the members.

THE PRIME MINISTER'S ENTERTAINMENT.

The third official reception of the members of the Medical Congresses took place on Monday evening, August 13th, and was given by M. Waldeck-Rousseau, who, as Prime Minister, elected to take over the portfolio of the Ministry of the Interior. He entertained at dinner 80 of the official Government representatives who are members of the Tenth International Congress of Hygiene, and later in the evening threw his official residence at the Place Beauveau open to all the members of the Congresses. Hardly any members, however, of the International Congress of Medicine remained in Paris and nearly all the guests were members of the Congress of Hygiene, consequently I do not think that there were at any time more than 1500 persons present. The result was a thoroughly enjoyable evening. To begin with—and this is always a good symptom—I was on entering at once able to dispose of my overcoat. At the Palace of the Luxembourg this simple operation had necessitated a fierce struggle in the midst of a dense and disorderly crowd that lasted for more than half an hour. Once within the beautifully furnished saloons of the Ministry I was able to stroll about freely, for there was no crowding. Even the buffet was not besieged, and refreshments could be obtained without delay or struggle, or the risk of having wine spilt over one's clothes or an ice dropped down one's back, all of which mishaps had become usual incidents on these festive occasions. But, more wonderful still, in the spacious long room which had a stage at its farthest extremity I was actually able to obtain a seat and thus saw in comfort the whole performance. First there were some Andalusian dances, and then a *pot-pourri* of the most popular songs from Offenbach's operettas. These were admirably rendered and loudly applauded. The gardens were illuminated and offered a cool strolling ground for the guests to smoke and chat, and it was not till after midnight that the members resigned themselves to quit these luxurious and pleasant Ministerial reception rooms.

THE RECEPTION AT THE HÔTEL DE VILLE.

On the afternoon of Tuesday, August 14th, the Congress was received at the Hôtel de Ville by M. GRÉBAUVAL, the President of the Paris Municipal Council. All the reception-rooms were thrown open and for some time the members strolled about looking at the gigantic and somewhat sensational pictures that illustrated dramatic episodes in the history of the town. Ultimately an usher announced the arrival of the President of the Municipal Council, who took his stand in front of a buffet and the members gathered in a half-circle around. Professor BROUARDEL introduced the Congress, observing that it constituted a remarkable gathering of people from all parts of the world who discussed together in perfect harmony, there being no party divisions among them. The resolutions adopted by the Congress in the main coincided with the policy of the Paris Municipal Council in so far as sanitary questions were concerned. This opinion would be

more particularly confirmed by those members of the Congress who had visited the Exhibition where they could see what had been done to improve the public health of Paris. The Municipal Council had always been popular with hygienists, for it had shown considerable readiness to adopt the suggestions of sanitary reformers, it had spent a considerable amount of money on improvements, and it was ever ready to welcome both French and foreign hygienists. M. GRÉHAUVAL expressed his thanks for the laudatory words uttered by the Dean of the Paris Faculty of Medicine. The concord to which allusion had been made was the happy result of the study of science. Hygiene represented the beneficent goddess who in teaching preventive medicine also helped to prevent moral corruption. As hygienists the members of the Congress had examined the minutest details of every-day life, thus showing a truly scientific spirit. It was to be hoped that in time the mass of the people would learn to be equally minute and careful. Formerly the constituted authorities were at the service of intolerance and superstition; now they were at the service of science. The crowd would not forget this Congress, for it had helped to build a wall—not a Chinese wall, but a European wall—against disease. He invited the Congress to accept a glass of champagne and he asked leave to drink to the prosperity of their good work. Some members of the Congress were then presented to the President of the Municipal Council, and after a little conversation the Congress dispersed so as to prepare for the great banquet to be held at night.

To-morrow there will be no sitting. The day will be left free so that the French members of the managing committee may conduct parties to the Exhibition to show and explain those exhibits that are of technical interest to hygienists. The work of the sections will be resumed on Thursday, August 16th.

Paris, August 14th.

THE WAR IN SOUTH AFRICA.

THERE is but little to be chronicled from a military point of view during the past week. What there is, on the whole, is good. The Boers are being hard pressed. We have news about Lord Kitchener and De Wet which would lead to the belief that the force commanded by the skilful Boer general was at last in grave danger of being surrounded, but this has been so often an unfulfilled belief before, owing to the clever way in which he has eluded capture, that we may well hesitate to express any definite opinion until it is an accomplished fact and there is no longer any room for doubt. Until this has been done we may expect a repetition of harassing raids and surprises. In war the boldest strategy is so frequently the best that to our unmilitary mind we fail to understand why, following the plan adopted by Sherman in his celebrated march during the American war, no attempt has been made to provision a strong force and march it for the purpose of seizing the railway and cutting off the source of the Boer supplies and line of communication with Lorenzo Marcques. The more we learn of the war in South Africa the more clearly does it appear that transport has throughout been the main source of all our difficulties. The railways in South Africa are of narrow gauge, there is a great deficiency of rolling-stock, there are steep gradients and a want of sufficient motive power; the consequence of all which is that trains take a very long time in making their journeys and have to carry relatively light freights. The hospital service has greatly suffered on this account and the straits to which General Rundle's force has been reduced are apparently attributable to the same cause.

The members of the South African Royal Commission are on their way to South Africa and the session of Parliament has closed, and we may consequently anticipate a brief lull in contentious criticism. We are not sorry for it, for we think that the tone adopted in the last debate in the House of Commons on the Royal Commission was regrettable. We do not know, of course, whether Mr. Burdett-Coutts has an exasperating effect on Mr. Balfour as has been alleged, but such certainly seems to be the case, for a strained position has somehow been brought about. Mr. Balfour is usually extremely temperate and courteous in his replies to Members and in his conduct of Parliamentary business generally, but where Mr. Burdett-Coutts is concerned he almost always couches what he has to say in a tone of asperity.

Assuming that the statements from a special correspondent of the *Times* of August 13th regarding the treatment of enteric fever convalescents from South Africa are correct, we can only say that they disclose a discreditable state of things and a want of practical organisation in looking after our invalid reservists. As regards the medical department and hospitals at the seat of war we continue to read the most conflicting accounts in the public press as to their alleged shortcomings. It can scarcely be that any deficiency in the supplies has arisen from these not having been present in the country, for the Government and the public have forwarded them in abundance. We can therefore only assume that, owing to transport difficulties, they have not been distributed. The medical officers should, in our opinion, have full power to purchase hospital supplies whenever necessary and where these are locally obtainable, notwithstanding the objections that might be urged against having more than one spending department with an army in the field.

We can quite realise the disappointment of the medical officers in South Africa at the change which has taken place in the state of affairs affecting their service and that they are looking forward to the investigation by the Royal Commission and some authoritative expression of opinion as to the alleged shortcomings and their causes with a keen sense of relief.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

The first detachment of the new branch of the Imperial Yeomanry Hospital destined for Pretoria has arrived from England, and pending the completion of the necessary arrangements for their transport we are putting them up here, to the number of 104 orderlies, two medical officers, and 12 nursing sisters. This brings up the number in our camp to 1225. It is to be hoped that the difficulties—such, for instance, as the inevitable irregularity of railway service as long as there are commandoes liable to swoop down upon the line—which still make it necessary for the military authorities to curtail railway travelling north of Bloemfontein, even to the extent of forbidding the return of prominent members of the mining industry to Johannesburg, will shortly be removed, or that, at all events, means will be found for getting the staff and material of this new branch up-country in order that they may get into working order without undue delay. The *personnel* are full of enthusiasm and desire to get to work, whereas all the excitement of working in the war and the novelty of African surroundings has worn itself out of our staff during the last five months, and much as many of our people would like to see something of the "front" there are very few who would voluntarily throw up their work in this hospital for the sake of any change of site, however tempting it might be from some points of view. Everything runs like clockwork here now and the feeling of romance has so completely died out that we really almost at times forget that we have not been working under similar conditions all our lives, while at other times the feeling most prominently expressed is one of home-sickness and a longing to be "back again." Colonel Sloggett went down to Cape Town to meet the new branch and brought them up here at once. It was not altogether an easy matter to find accommodation for them, especially for the 12 sisters, for our own 48 sisters were quite cramped enough already. However, by the help of a few bell-tents their sleeping accommodation was arranged for, and with great good luck we got a fresh hut erected just in time to be used as a dining-room for the 60 nursing sisters who now have to be catered for. Only a tent had been available for that purpose before and great inconvenience has been caused from time to time by its being repeatedly blown down. Now on the windiest and dustiest day they will at least be freed from any anxiety as to whether they will find their meals in an edible condition. This hut is 60 feet long by 16 feet 6 inches broad. One end of it is curtained off from the larger half as a sitting-room and there the dining tables are arranged, and we have placed it quite close to the sisters' kitchen, but separated from it by an open-air space. The doors are placed in the middle of the long sides of the hut, so that the two ends should be as far as possible defended from wind and dust. I think they will now be thoroughly comfortable.

I hope that during the sojourn of the new staff with us and the consequent increase of our forces we shall be enabled to give several of our original staff a little rest and change. Many of them have invitations from friends in other institutions. Some, indeed, have already run away for a few days—the sisters for the most part to Kimberley—and the medical officers have all of them got a change by either taking a train-load of convalescents down to Cape Town, by going over to a neighbouring magistrate's or farmer's for a day or two's shooting, or by going on a camping expedition to Table Mountain, which is some 12 miles away and where there is always a certainty of seeing, and the chance of capturing, some baboons. As they have always come back very much the better for the change, it is to be hoped that it will be possible to give everybody who has not hitherto been able to be spared a short holiday. Our dental surgeon has already gone home as have two of our surgeon's dressers, but luckily we have been able to replace one of the latter with a medical student who came out as a trooper in the Yeomanry. Indeed, every department of our staff has had in a similar way to attach to itself reinforcements from the convalescent patients or we should never have been able to get through the amount of work which we have found ready to our hand.

Though we have not taken in any ambulance train this week yet several small detachments, chiefly of Yeomanry, have arrived and the number of patients who have passed through the hospital now exceeds 2,300. Among these there have been only 53 deaths, which, considering that quite half of the patients have had enteric fever, gives a satisfactorily low death-rate. This disease is a most exacting one for any hospital to cope with in large numbers. Not only are many of its victims grave cases, which call for the most skilful nursing and much personal attention from doctors, sisters, orderlies, and those employed in the disinfecting departments, but also every case, however slight, occupies a bed for at least five weeks. The average length of stay, indeed, of these patients in hospital works out at even a longer time than that—which is more than double the length of stay of a patient with pneumonia, for instance—so that the beds are blocked for a long period. A curious sight was to be observed in one of the wards on Mafeking night. When the news of the relief came there was a patient convalescent from enteric fever but unable yet to get out of bed. His request to be allowed to get out of bed and execute a dance of joy was refused by the sister, so he was driven to signify his glee by proxy, and he asked the orderly to stand on his head in the middle of the ward for him. During the last month we have had to do over 100 operations in the "theatre" (the largest number on any one day was eight), besides many minor ones in the wards. We had a visit a little while ago from our civilian director, Mr. Hamilton. He instituted, and there has since been carried out, a complete stock-taking throughout the entire hospital.

We owe our thanks to a large number of people at home for their kind gifts of sweets and tobacco which have been arriving of late. They are both immensely appreciated. By-the-by it would be a great convenience to those who have to undertake the distribution of such gifts if they could be done up before they left the shop in very small packets, each packet containing just enough of the particular article to last one man for one day, or at the outside for two days. "Tommy" seems much to prefer his comforts doled out to him frequently in small quantities. He is not a good hand at so husbanding a larger supply as to make it last the time it should, nor is he at all fond of sharing a packet with another man or men. What he likes best of all is to have his day's ration of each article distributed to him each day, and ever since we came here our "Tommies" have been humoured in that respect by my wife's regular daily round; but, of course, if the distributor has to deal out the allowance from large parcels it adds enormously to the labour of distribution when there are from 700 to 800 patients to be visited each day. If I were asked what quantity should be put into each parcel I should say, of cigarettes six, of tobacco half an ounce, and of sweets two ounces. It would be a much easier matter for the distributor when it was necessary or desirable to increase the number of such small parcels than it is to carve out the large parcels we at present receive; but while I venture to make this suggestion it will not, I hope, be thought that we are "looking a gift horse in the mouth."

I think I told you last week that there are some small commandoes of the enemy working about the country not far north from here. None of them are south of us, and yet a few days ago a wounded officer came in who had been sniped a couple of stations down the line towards Cape Town.

Our one and only blacksmith has lately escaped again from hospital, where he was laid low with dysentery, and he is now very hard at work in the smithy mending implements and bedsteads, shoeing horses, and so on, but I regret to say that his place has been taken in the ward by a still more indispensable member of the staff in the person of our masseur. I really doubt whether there is any other member whose absence from duty would excite such a general regret among the patients. I am glad to say that no more cases of scarlet fever have cropped up, and all members of the staff who are in hospital are doing well. The marble cross I brought down from Kimberley last week has been erected over poor FitzHugh's grave.

One of the first batch of wounded officers who came to us in our early days and went back to the front quite well, got wounded again recently near Pretoria. Directly we saw his name in the paper we thought we should not be far out if we prepared a bed for his early arrival, and we were not wrong, for on that very day he sent a telegram to say he was on his way and hoped we could take him in. Of course we were delighted to have him back, and still more delighted when our sympathy for his hard luck at having been sent down with a bullet in the leg was turned to smiles on the x-rays demonstrating that he had had the good luck to prove too tough for the bullet to go into him. There was only one wound, so naturally it was inferred that the bullet had lodged, but it was evidently a case of a spent bullet which had hit the skin only just hard enough to penetrate it and not hard enough to bury itself. He went up to the front again the next day.

The London newspapers for the last week of June have now reached us, and for the first time we are in a position to know fully about the reasons for the commotion which the local papers had already told us had been caused at home by the charges of inefficiency made against the Royal Army Medical Corps. We see that a committee of inquiry has, upon Lord Roberts's suggestion, been appointed by the Government, but we do not yet know all the names of that committee, nor have we been able to find the terms of reference which prescribe the field of inquiry. Whether any real and permanent good will result from the work of this committee, I think, depends to a very large extent upon the scope of their inquiries. If they are limited to a mere investigation of the way the Royal Army Medical Corps have done the work which it is their duty to do, I do not believe that they will succeed in discovering very much amiss, but if the committee is instructed to go further and to investigate fully some collateral matters, such, for instance, as the question whether the transport department have always given to the Royal Army Medical Corps as great facilities as it is reasonable to suppose they might have done under the given circumstances (and, of course, everybody knows that the circumstances are often extremely difficult in such a country as this), then I think that facts will come to light that have a very important bearing on the welfare of the sick and wounded.

We hear from officers just down from Pretoria that at this very moment Lord Roberts is moving his troops with a view to surrounding the Boers at Machadodorp, so that the news of the next few days will probably settle the question whether he is able to give them a good hammering there and by a big capture bring about the speedy termination of the war, or whether they will succeed in getting away to Lydenburg, in which case it is the opinion of many that the war will last another three or four months. Among the many signs that the end of the war is at hand is the fact that the Portland Hospital is being shut up. We are told that its equipment is being sold and that some of the articles are fetching far more than cost price. There could not be any better confirmation of what I told you some time ago about the number of beds now empty in the hospitals and the consequent removal of stress from all the hospitals in South Africa. Otherwise in face of the rumpus at home over the "military hospitals question" the disbanding of one of the hospitals would never have been even contemplated, especially of the one which bears the very best of reputations and which has the additional distinction of being the oldest of the many voluntary hospitals engaged in this war.

We have got some bicycles here now for the sisters, and when the weather improves—for we are still having a very bad time, with wind one day and rain the next—I hope they

will get some pleasure out of them, though indeed the surrounding country is so entirely unfavourable that we have never unpacked our own machines. The roads are not roads at all—they are just cart-tracks across the veldt—and the man of our staff who bicycles most generally limits his roving to a patrol of the railway-line.

Deelfontein, July 23rd.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Government of India and the Plague Commission Report.—Cholera and Plague in Bombay.

THE Government of India have considered the report of the Indian Plague Commission on the measures for the suppression of plague. The methods which have been employed for the discovery of plague cases are (1) notification of sickness generally or of plague in particular; (2) surveillance of arrivals from infected areas; (3) grant of rewards for information regarding plague cases; (4) employment of volunteer agencies; (5) inspection of villages in the neighbourhood of infected villages; and (6) house visitation and house searches. The fifth and sixth are found to be useful only in very exceptional circumstances and the employment of paid spies and informers is considered a measure which should never be adopted.

The methods of obtaining information regarding the occurrence of plague deaths are by registration of deaths and by corpse inspection. The compulsory examination of dead bodies has had to be abandoned so that careful local inquiries for the purposes of fixing the exact cause of death alone remains. The imperfect registration of deaths makes the statistics of deaths far from being even approximately accurate. The Commission consider the measures to check plague under the following heads: (1) removal of plague patients to hospital; (2) segregation of contacts; (3) evacuation of towns and villages; and (4) disinfection.

The Government of India desire that the removal of patients to hospital should be compulsory only in places and under circumstances where it can be carried out so completely as to render it an effectual precaution. With regard to contacts the Governor-General in Council agrees that the segregation of contacts should be abandoned. Evacuation is generally beneficial but much depends upon climatic conditions, and in villages and small towns up to 10,000 people complete evacuation is generally possible and provides the most effective safeguard against the spread of the disease which has yet been discovered.

The Commission report that chemical disinfection is the only measure which, where effectively carried out, immediately destroys the infective material in a room and renders the room at once practically safe for re-occupation.

The Government of India do not agree that disinfection in towns should be restricted to the houses in which either cases of plague have occurred or dead rats have been found. The Commission think very little indeed is to be gained by the disinfection of the persons of travellers and recommend that this should be abandoned. Then there are the measures to prevent the spread of plague from infected to uninfected areas: (1) measures to prevent the spread of plague by sea to foreign countries or other places in India; (2) measures taken at the place of arrival of ships from infected ports; (3) measures to prevent the spread of plague from one part of India to another by railway; and (4) measures to prevent the spread of plague by means of communication in India other than by sea or by railway.

The Commission found that the work under the terms of the Venice Convention was carried out in a most thorough and conscientious manner and so as completely to satisfy the letter and spirit of the Convention. The Government of India under the second heading direct that in future the examination of passengers arriving from one infected port in India at another shall be discontinued. Under the other heads further changes are proposed. The disinfection of the personal effects of railway travellers will be altogether abandoned and all disinfection stations maintained on the railways will be closed. The detention of the ordinary traveller because he has come from an infected area is also condemned and "cordons cannot be made an effective means for preventing the spread of plague."

The summing-up of the Commission on the various measures is that in the larger places disinfection and the evacuation of specially infected quarters are the only measures to be applied. For villages they recommend inoculation, chemical disinfection, and evacuation. The Government of India lay down their opinion that certain measures should never be undertaken. These are the employment of paid informers or spies, the compulsory examination of corpses, the shutting up of people in infected houses, and the prevention of their movement from the infected area by means of a cordon or any other device. The Government of India also give their opinion on certain other measures which should rarely be attempted. These are house visitations or searches, compulsory notification of sickness, and the grant of rewards for information as to the existence of sickness.

The prospects of the monsoon have again become very gloomy. Very little rain has fallen in some places and the south-west current is generally weak. If more rain does not fall in the northern part of the Bombay Presidency the suffering is likely to exceed anything that has yet been endured. The numbers under famine relief still exceed 6,000,000. Within the past fortnight the outbreak of cholera in Bombay has assumed alarming proportions. The general mortality has risen, however, in greater degree and last week the total deaths registered were 1524—being 305 more than in the previous week. The registered deaths from plague have also increased. Every precaution is being taken with regard to the water-supply and all well water is examined and the wells are disinfected. Every house where a case occurs is promptly disinfected and the clothing of the patient is burnt. In other parts of India the plague continues subdued. There is now very little in Calcutta and Karachi is declared to be free once more.

July 26th.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending July 7th are as follows: Remaining at the beginning of the week, 62; admitted, 1; discharged, 6; died, none; remaining at the end of the week, 57. The totals up to the end of the week are as follows: Cases, 297; deaths, 101; discharged, 139; "contacts" isolated, 1689; "contacts" remaining, 47; cases among "contacts," 7. The above figures include Chinese, of whom 10 were admitted, with eight deaths, all the other patients being whites.

Down to the end of the week ending May 19th the weekly number of new cases continued high. For that week it was 24, and afterwards was in each week as follows: May 26th, 7; June 2nd, 17; June 9th, 4; June 16th, 10; June 23rd, 6; June 30th, 12; July 7th, 1. This sequence, taken together with the diminished severity of the disease, gives ground for hoping that the end of the outbreak has been nearly reached, and that it will soon be possible once more to furnish outgoing vessels with clean bills of health. In the meantime the measures and precautions hitherto taken have not been relaxed; however, the last area proposed for cleansing will be quarantined immediately, and then this method will be given up for the present. It remains to gauge its usefulness; but this cannot be done until all the circumstances have been fully considered—a business on which the staff of the Department of Public Health are now beginning to be engaged.

July 10th

VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING JULY, 1900.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·0 per 1000 of the population, estimated at 4,589,129 persons in the middle of the year. In the three preceding months the rates had been 6·2, 7·2, and 6·9 per 1000 respectively. The

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY, 1900.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1900.	NOTIFIED CASES OF INFECTIOUS DISEASE: Small pox.	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	DEATHS FROM PRINCIPAL INFECTIOUS DISEASES: Small pox.	Measles.	Scarlet fever.	Diphtheria.	Whooping cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON	4,589,129	13	1003	955	—	166	8	12	290	1	2448	7·0	—	161	25	93	167	—	41	2	437	926	2·6	5522	15·7	158
West Districts.																										
Paddington	130,104	—	22	9	—	3	1	1	12	—	58	5·8	—	8	—	1	2	—	—	1	15	27	2·7	137	13·7	184
Kensington	173,403	—	28	22	—	6	1	—	9	—	65	4·7	—	4	1	—	2	—	2	—	17	26	2·0	198	14·9	217
Hammersmith	110,203	2	20	14	—	5	—	—	4	—	45	5·3	—	2	—	1	2	—	1	—	11	17	2·0	116	13·7	140
Fulham	136,383	2	45	53	—	3	—	—	13	—	116	11·1	—	2	2	5	5	—	—	—	18	32	3·1	141	13·5	128
Chelsea	56,715	—	21	18	—	5	—	—	4	—	46	6·2	—	1	—	2	1	—	1	—	7	12	1·6	105	14·2	124
St. George Hanover-square	81,133	—	16	6	—	1	1	—	3	—	27	4·3	—	—	1	—	—	—	—	—	—	1	0·2	50	8·0	57
Westminster	51,657	—	12	9	—	2	—	—	4	—	27	6·8	—	1	—	1	1	—	1	—	2	6	1·5	66	16·7	241
St. James Westminster	21,457	—	6	4	—	1	—	—	—	—	11	6·7	—	—	—	—	—	—	—	—	—	—	—	22	13·4	118
North Districts.																										
Marylebone	139,777	—	26	22	—	2	—	2	12	—	64	6·0	—	5	—	3	7	—	2	—	15	32	3·0	172	16·0	112
Hampstead	81,766	—	15	13	—	5	—	—	3	—	36	5·7	—	4	—	4	2	—	—	—	—	10	1·6	46	7·3	87
St. Pancras	245,851	3	49	44	—	16	—	—	17	—	129	6·8	—	5	1	5	9	—	3	—	22	45	2·4	325	17·2	152
Islington	351,541	—	80	44	—	14	—	—	19	—	157	5·8	—	10	1	9	10	—	2	1	9	42	1·6	351	13·0	116
Stoke Newington	35,718	—	14	5	—	—	—	—	2	—	21	7·7	—	1	1	1	1	—	1	—	2	7	2·6	34	12·4	71
Hackney	225,519	1	49	53	—	6	—	1	11	—	121	7·0	—	7	1	3	8	—	2	—	38	58	3·4	245	14·2	189
Central Districts.																										
St. Giles	36,870	—	5	5	—	2	—	—	4	—	16	5·7	—	—	—	1	1	—	3	—	—	5	1·8	53	18·7	185
St. Martin-in-the-Fields	11,885	—	3	3	—	—	—	—	—	—	6	6·6	—	—	—	—	—	—	—	—	1	1	1·1	6	6·6	111
Strand	22,748	—	6	6	—	1	—	—	1	—	14	8·0	—	—	—	1	—	—	1	—	1	3	1·7	28	16·1	100
Holborn	29,188	—	14	5	—	2	—	—	4	—	25	11·2	—	4	—	—	1	—	—	—	—	5	2·2	60	26·8	351
Clerkenwell	66,007	—	12	14	—	1	—	—	3	—	30	5·9	—	4	1	5	3	—	1	—	7	21	4·1	95	18·8	194
St. Luke	40,655	—	10	6	—	1	—	—	2	—	19	6·1	—	1	—	1	1	—	1	—	7	11	3·5	68	21·8	119
City of London	26,922	—	7	4	—	1	—	—	1	—	13	6·3	—	1	—	—	—	—	—	—	1	2	1·0	35	17·0	176
East Districts.																										
Shoreditch	120,641	—	20	33	—	6	—	1	14	—	74	8·0	—	8	1	5	2	—	—	—	34	50	5·4	180	19·4	209
Bethnal Green	128,831	1	24	40	—	3	—	—	12	—	80	8·1	—	6	3	5	5	—	—	—	6	25	2·5	197	19·9	136
Whitechapel	82,220	1	40	36	—	6	—	—	9	—	92	14·6	—	8	1	1	3	—	2	—	6	21	3·3	106	16·8	126
St. George-in-the-East	48,875	—	13	14	—	3	—	—	5	—	35	9·3	—	2	3	1	3	—	—	—	10	19	5·1	100	26·7	277
Limehouse	58,944	—	7	9	—	3	—	—	4	—	23	5·1	—	15	3	1	3	—	—	—	13	35	7·7	127	28·1	303
Mile End Old Town	113,781	—	30	19	—	8	—	—	11	—	68	7·8	—	10	—	1	12	—	1	—	24	48	5·5	192	22·0	272
Poplar	170,968	—	29	47	—	11	—	—	7	—	94	7·2	—	7	—	3	7	—	4	—	43	64	4·9	281	21·4	214
South Districts.																										
St. Saviour Southwark	23,854	—	9	4	—	1	—	—	2	—	16	8·7	—	—	—	—	3	—	—	—	4	7	3·8	41	22·4	269
St. George Southwark	60,597	—	19	9	—	1	—	—	4	—	33	7·1	—	3	—	—	1	—	—	—	5	9	1·9	99	21·3	178
Newington	125,178	1	23	38	—	3	—	1	6	—	72	7·5	—	6	1	3	8	—	—	—	12	30	3·1	160	16·7	151
St. Olave Southwark	10,909	—	5	—	—	—	—	—	—	—	5	6·0	—	—	—	1	—	—	—	—	—	1	1·2	8	9·6	45
Bermondsey	85,920	—	13	8	—	1	—	—	3	—	25	3·8	—	2	1	—	6	—	2	—	8	17	2·6	124	18·8	214
Rotherhithe	41,246	—	6	15	—	4	—	—	9	—	34	10·7	—	2	—	1	1	—	—	—	3	7	2·2	48	15·2	145
Lambeth	312,152	—	60	107	—	9	4	1	16	—	197	8·2	3	3	2	13	6	—	3	—	24	51	2·1	364	16·2	115
Battersea	178,100	—	38	19	—	6	—	2	5	—	70	5·1	4	3	—	1	9	—	3	—	24	40	2·9	168	12·3	187
Wandsworth	217,004	1	29	30	—	8	—	—	12	—	80	4·8	3	2	—	1	4	—	—	—	13	22	1·3	192	11·5	127
Camberwell	268,457	1	58	52	—	7	1	2	12	—	133	6·5	2	6	—	7	15	—	3	—	13	40	1·9	203	14·7	143
Greenwich	184,582	—	28	46	—	4	—	—	16	—	94	6·6	6	1	—	4	9	—	1	—	13	34	2·4	217	15·3	159
Lewisham (excluding Penge)	93,548	—	26	28	—	2	—	1	6	—	63	8·8	6	—	—	—	6	—	—	—	6	12	1·7	83	11·6	110
Woolwich	41,600	—	10	5	—	2	—	—	2	—	19	6·0	3	—	—	—	—	—	—	—	1	4	1·3	58	18·2	118
Lee	40,722	—	19	25	—	—	—	—	—	—	44	14·1	3	1	—	1	3	—	—	—	4	6	1·9	36	11·5	74
Plumstead	65,558	—	29	11	—	3	—	—	7	—	47	9·3	11	—	1	1	5	—	1	—	2	21	4·2	85	16·9	100
Port of London	—	—	1	1	—	—	—	—	—	1	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 15 cases of membranous croup.

† Including deaths from membranous croup.

rates were considerably below the average in Kensington, Westminster, Limehouse, Bermondsey, Battersea, and Wandsworth; while they showed the largest excess in Fulham, Holborn, Whitechapel, St. George-in-the-East, Rotherhithe, Lee, and Plumstead sanitary areas. Thirteen small-pox cases were notified during July, of which three belonged to St. Pancras, two to Hammersmith, and two to Fulham sanitary areas; 12 small-pox patients were admitted into the Metropolitan Asylums Hospitals during the month, and 11 remained under treatment on Saturday, July 28th. The prevalence of scarlet fever showed a slight decline from that recorded in the preceding months; among the various sanitary areas this disease was proportionately most prevalent in Stoke Newington, Holborn, Whitechapel, St. Olave Southwark, Lee, and Plumstead. The Metropolitan Asylums Hospitals contained 1804 scarlet fever patients at the end of July, against 1619, 1735, and 1788 at the end of the three preceding months; the weekly admissions averaged 210, against 174, 198, and 202 in the three preceding months. The prevalence of diphtheria showed a marked increase last month; the greatest proportional prevalence of this disease was recorded in Fulham, Bethnal Green, Whitechapel, Rotherhithe, Lambeth, and Lee sanitary areas. There were 1256 diphtheria patients in the Metropolitan Asylums Hospitals at the end of July, against 1131, 1402, and 1212 at the end of the three preceding months; the weekly admissions averaged 183, against 135, 172, and 151 in the three preceding months. The prevalence of enteric fever showed a further slight decline from that recorded in recent months; among the various sanitary areas this disease was proportionally most prevalent in St. Pancras, Whitechapel, St. George-in-the-East, Mild End Old Town, Poplar, and Rotherhithe. The Metropolitan Asylums Hospitals contained 129 enteric fever patients at the end of July, against 208, 176, and 148 at the end of the three preceding months; the weekly admissions averaged 20, against 27, 24, and 21 in the three preceding months. Erysipelas was proportionally most prevalent in St. Giles, Holborn, Shoreditch, Whitechapel, Rotherhithe, and Plumstead sanitary areas. The 12 cases of puerperal fever included two in Marylebone, two in Battersea, and two in Camberwell sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the sanitary areas in which the patients had previously resided. During the four weeks ending July 28th the deaths of 5522 persons belonging to London were registered, equal to an annual rate of 15·7 per 1000, against 20·2, 16·6, and 14·8 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 6·6 in St. Martin-in-the-Fields, 7·3 in Hampstead, 8·0 in St. George Hanover-square, 9·6 in St. Olave Southwark, and 11·5 in Wandsworth and in Lee; the highest rates were 21·8 in St. Luke, 22·0 in Mile End Old Town, 22·4 in St. Saviour Southwark, 26·7 in St. George-in-the-East, 26·8 in Holborn, and 28·1 in Limehouse. During the four weeks of July 926 deaths were referred to the principal zymotic diseases in London; of these, 161 resulted from measles, 25 from scarlet fever, 93 from diphtheria, 167 from whooping-cough, 41 from enteric fever, two from simple continued fever, and 437 from diarrhœa. These 926 deaths were equal to an annual rate of 2·6 per 1000, against 1·8, 1·8, and 1·7 in the three preceding months. No death from any of these diseases occurred last month in St. James Westminster; in the other sanitary areas they caused the lowest death-rates in St. George Hanover-square, St. Martin-in-the-Fields, City of London, St. Olave Southwark, Wandsworth, and Woolwich, and the highest rates in Shoreditch, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, and Plumstead. The 161 deaths from measles were 74 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Holborn, Whitechapel, Limehouse, Mile End Old Town, Woolwich, and Plumstead sanitary areas. The 25 fatal cases of scarlet fever showed a decline of 46 from the corrected average number; the greatest proportional mortality from this disease occurred in Fulham, Stoke Newington, Bethnal Green, St. George-in-the-East, Limehouse, and Plumstead sanitary areas. The 93 deaths from diphtheria were 71 below the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Fulham, Hampstead, Clerkenwell, Shoreditch, Bethnal Green, and Lambeth. The 167 fatal cases of whooping-cough were slightly in excess of the corrected average number; this disease showed the highest proportional fatality in Mile End Old Town, St. Saviour Southwark, Newington, Bermondsey, Lewisham, and Plumstead sanitary areas. The 43 deaths referred to "fever" exceeded by ten the average number in the corresponding periods of the ten preceding years; among the various sanitary areas the "fever" death-rate was highest in Stoke Newington, St. Giles, Strand, Whitechapel, Poplar, and Bermondsey. The 437 fatal cases of diarrhœa showed a decline of 318 from the corrected average number; this disease was proportionally most fatal in St. Luke, Shoreditch, St. George-in-the-East, Limehouse, Mile End Old Town, and Poplar sanitary areas. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during July was nearly 35 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 158 per 1000. The lowest rates of infant mortality were recorded in St. George Hanover-square, Hampstead, Stoke Newington, Strand, St. Olave Southwark, and Lee; and the highest rates in Westminster, Holborn, St. George-in-the-East, Limehouse, Mile End Old Town, and St. Saviour Southwark sanitary areas.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following qualified candidates for the Naval Medical Service have been appointed to be Surgeons in Her Majesty's Fleet:—George Ross, John Scarbrough Dudding, William Bastian, Charles Thomas Baxter, Robert William Basil Hall, Henry Cyril Adams, Llewellyn Lindop, Noel Hugh Harris, William Ernest Gribbell, Hardy Vesey Wells, John Marcus Hobson Conway, Robert Bernard Scribner, John Whelan, Arthur Izod Sheldon, John Verdon, and Cecil Rodney Rickard.

IMPERIAL YEOMANRY.

4th Battalion: The appointment of R. Mervyn Wilson as Medical Officer, with the temporary rank of Captain, which was notified in the *London Gazette* of Feb. 2nd, 1900, is cancelled.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Majors to be Lieutenant-Colonels:—George Holden Sylvester, William John Macnamara, Daniel O'Sullivan, Edwin Oswald Milward, Charles Rolleston Woods, John Oldfield Greatrex Sandiford, Robert Lindsay Love, Henry Walker Murray, Michael William Kerin, Alfred Peterkin, Edward Lewis Maunsell, William Heffernan, Ronald William Edward Huntly Nicholson, James Grove White Crofts, William Dugdale, Delaware Lewis Irvine, Edward Russell Cree, and Denham Francis Franklin.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments to the Indian Medical Service are submitted for Her Majesty's approval:—To be Lieutenants: James Drummond Graham, Cuthbert Allan Sprawson, Maxwell MacKelvie, William Lapsley, William Henry Cazaly, Percy Alfred Browne, Walter Valentine Coppinger, Alfred Spitteler, James Charles Stewart Oxley, Henry Richard Macknee, Leonard Joseph Montague Deas, William Mitchell Houston, William David Acheson Keys, George Joseph Grafton Young, James Good, Alexander Chalmers, William Gavin Hamilton, and Samuel Robert Godkin.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain J. W. Ellis to be Surgeon-Major.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Robert William Beesley to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Aberdeenshire: Henry McIlree Williamson Gray to be Surgeon-Lieutenant. *Royal Engineers* (Volunteers): 1st Hampshire: Surgeon-Lieutenant A. B. Wright resigns his commission. 1st Newcastle-on-Tyne: Surgeon-Captain H. H. Gourley, from the 4th Durham (Western

Division, Royal Garrison Artillery), to be Surgeon-Captain. *Rifle*: 1st Volunteer Battalion the Royal Warwickshire Regiment: Arthur Roscoe Badger to be Surgeon-Lieutenant. 4th Volunteer Battalion the Devonshire Regiment: Surgeon-Lieutenant F. B. Manning to be Surgeon-Captain. 2nd Volunteer Battalion the Princess of Wales's Own (Yorkshire Regiment); Surgeon-Captain S. H. Snell, from 1st Essex Volunteer Artillery, to be Surgeon-Captain. 5th Volunteer Battalion the Cheshire Regiment: Edward John Walter Carruthers to be Surgeon-Lieutenant.

TRANSVAAL WAR NOTES.

The Southampton Town Council have decided to confer the freedom of the borough upon Mr. Robert E. Lauder, F.R.C.S., L.R.C.P. Edin., and Mr. W. Prior Purvis, M.D., B.Sc., M.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond., of the Southampton Volunteer Ambulance Corps who have recently returned from South Africa.

Major Dodd, R.A.M.C., and Lieutenant Phipps, R.A.M.C., have left South Africa for England.

Major Caldwell, R.A.M.C., and Captain Moore, R.A.M.C., have arrived in the *Tagus*.

We understand that commissions in the Royal Army Medical Corps will be granted to those of the civilian surgeons serving in South Africa who may care to accept them.

In a passage in a private letter to the *Times* Special Correspondent dealing with De Wet's attack on Honing Spruit published in the *Times* of August 14th the writer pays what is evidently a well-deserved tribute to the services rendered by Mr. G. L. Cheatle, F.R.C.S., and concludes with the following words: "Imagine what Smith and I should have done with them (the wounded) if Cheatle had not happened to be on his way home by that train. He is a very gallant fellow and did well."

HOW TO POPULARISE OUR ARMY.

We would direct the attention of our readers to an article under the above heading in the August number of the *Pall Mall Magazine*. It strikes us as being written from a common-sense point of view by one who has had some practical experience to guide him in what he has to say. To take a single point, soldiers' barrack-rooms are very badly lighted. We do not pretend to agree with all the author has advanced, nor, indeed are we concerned with several of the points discussed, but some of the remarks on soldiers' barrack-rooms, lavatories, cubicles, dining- and recreation rooms, and on hospital stoppages are of a practical character and well worth reading.

DEATHS IN THE SERVICES.

Surgeon-General Daniel James O'Callaghan, on August 12th, aged 85 years. He joined the Honourable East India Company's service in January, 1842, was employed in the Field Hospital of the Army of the Sutlej with the 49th Bengal Native Infantry, and also in the Chinese war of 1860 (medal). He acted as surgeon in chief medical charge of Foot Artillery at the seige of Delhi, and was present at the storming and capture of the city (medal and clasp). He retired in 1872. Surgeon-General O'Callaghan, who was the father-in-law of Sir Henry Irving, commenced his public career in the Royal Navy.

The Edinburgh Company of the Volunteer Medical Staff Corps completed a successful month's training at Aldershot on August 11th and were dismissed. Owing to the large number of troops in camp the services of the company have been most useful, and it is to be regretted that more such units are not formed.

Correspondence.

"Audi alteram partem."

HALLUX RIGIDUS.

To the Editors of THE LANCET.

SIRS,—Mr. Warrington Haward, in a clinical lecture published in THE LANCET of July 28th, refers on p. 242 to a case of hallux rigidus. I should like to refer him to a note on this condition which was published in Vol. I. of the *British Medical Journal* for 1887, p. 726, giving what I believe to be the first account of the disease. Further experience while acting as resident medical officer at the General Post Office in London showed me that the condition was fairly common among the telegraph messengers and was due to the wearing for the greater part of the 24 hours of boots with very stiff "waists," thick soles, inelastic uppers, each boot often weighing one and a half pounds. The result in a growing boy was a permanent painful stiffness of the metatarso-phalangeal joint of one or both great toes. I have also found excision of the metatarsal head to be the only means of cure, but, contrary to Mr. Haward's experience, have found in at least two instances eburnation of the dorsal half of the metatarsal head. As bearing on the disability the condition may cause well into adult life I was called not long ago to see a man, aged 40 years, who presented well-marked hallux rigidus of the left side; so great was the difficulty in rising on to the toes of the left foot that one day in breasting a steep hill, the right leg leading as usual, he ruptured his *right* plantaris tendon with the classical symptoms. All effort in walking had for years been made with the right leg. Short of operation I found that a cure could be affected in recent cases by cutting transversely through the "waist" of the offending boot down to the welt. By restoring thus the possibility of flexion to the foot affected the painful rigidity of the great-toe joint rapidly passed off.

I am, Sirs, yours faithfully,
REGINALD H. LUCY, F.R.C.S. Eng.

Plymouth, August 9th, 1900.

"PREPUTIAL CALCULI."

To the Editors of THE LANCET.

SIRS,—In reference to your annotation on this subject in THE LANCET of August 4th, I may say that I have in my possession a specimen consisting of 28 faceted fragments weighing nearly one ounce and an eighth which I removed from a Chinaman a few years ago. The fragments were admirably apposed, forming a roundish lump of the size of a large alley, which lay behind a phimosed prepuce. The external surface was a little rough; the colour was ash grey. The material turned out to be calcium carbonate, calcium phosphate, and organic matter. It had caused considerable irritation, ulceration, and suffering. After a small incision I was able to extract it piecemeal and the man made a rapid convalescence.

I am, Sirs, yours faithfully,
GERALD S. WALTON, M.B., C.M. EDIN.

Sutton, Surrey, August 9th, 1900.

"THE TREATMENT OF CHRONIC GLAUCOMA."

To the Editors of THE LANCET.

SIRS,—In the account of the discussion, at the meeting of the British Medical Association, on Mr. Cross's paper on the Treatment of Chronic Glaucoma, published in THE LANCET of August 11th, the following remarks are attributed to me: "Mr. Bower was in favour of prolonged treatment with eserine and cocaine. His experience of iridectomy was that in many cases the disease progressed." As this is very far from what I really did say I trust you will allow me to correct what would otherwise give rise to an entirely erroneous impression.

It is true that I mentioned the case of a woman who had been under my care for at least six years where glaucoma had been kept in abeyance during the whole of that time by the use of myotics. She always refused operation, but said she would consent to iridectomy if the sight should get worse, which it has not done up to the present time. She had already lost one eye from glaucoma, which naturally made one not over-anxious to operate on the remaining eye if it could be avoided. I was careful, however, to state that such cases are rare and should never deter us from advising an operation in chronic glaucoma when once the diagnosis is established.

In reference to iridectomy, what I said was that it would be interesting to know what percentage of cases were permanently cured after operative measures, as my impression was that eventually after a longer or shorter period of time—it might be years—in the greater number of cases which might have been regarded as cured the ultimate end was gradual deterioration of vision terminating in blindness. In all but a few exceptional cases I invariably recommend

iridectomy in chronic glaucoma provided the central vision is fairly good and there is not too much contraction of the field, but one is sometimes, perhaps, inclined to rely for too long a time on myotics in the very early stage of the disease, lest after the performance of iridectomy with its possible resulting astigmatism the sight might be left rather worse than it was before the operation and so cause the patient to be disappointed with the result and dissatisfied with the surgeon.

Mr. Cross's suggestion to perform sclerotomy rather than iridectomy in the very early stage of the disease might, I think, in some cases be advisable, as there would probably be less disturbance of vision from that operation than where a large piece of iris had been removed, and iridectomy could always eventually be performed if necessary. I should not have troubled you with this letter were it not that the operative treatment of chronic glaucoma is not now, as far as I am aware, open to question, so that the remarks erroneously attributed to me are entirely contrary to what is now a well-established fact.

I am, Sirs, yours faithfully,

Gloucester, August 12th, 1900. E. DYKES BOWER.

THE COVENTRY DISPENSARY.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 4th I notice a report of a discussion at the Deontological Congress in Paris where a Mr. Adolphe Smith is reported to have said that a combination of the local profession against certain "ostracised" practitioners in Wolverhampton and Coventry failed owing to the support these received from Birmingham consultants. I should like to know what are the facts which support this statement or whether there is any inaccuracy in the report. I have never heard of any "ostracised" practitioners in Wolverhampton nor do I think this term is rightly applied to the staff of the Coventry Dispensary. I have never been asked to support the profession in either town against any individuals nor do I know that a request of this kind has been brought before any of our medical societies by either of these towns. Such support was asked by another neighbouring town and at a meeting of the Birmingham and Midland Counties Branch of the British Medical Association it was agreed to, and I believe the boycott had the desired effect.

If I am not mistaken Mr. Adolphe Smith is the same gentleman who three years ago made certain statements about the profession in Birmingham which he failed to substantiate when challenged. So far as my knowledge goes his present allegations are equally baseless.

I am, Sirs, yours faithfully,

Llandrindod Wells, August 10th, 1900. ROBERT SAUNDBY.

*** We have every reason to believe that Mr. Adolphe Smith knows what he is talking about. Some three years ago Dr. Saundby wrote a letter in our columns containing offensive allusions to our Commissioner's work. If this letter is what he now refers to as a challenge it is well that he should understand that it was not answered either by our Commissioner or by ourselves because it was rude.—ED. L.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Three New Hospitals.

THE Assistance Publique will be able before the end of the year to open three new hospitals for children built to replace the Trousseau Hospital which will be pulled down as soon as certain legal formalities have been complied with (*après désaffectation*). The buildings are almost complete and the children will be admitted as soon as the plaster is dry. The new hospitals are built of brick in accordance with all the most modern ideas and contain altogether 700 beds. Their names are as follows: the Herold in the Place de Danube, the Trousseau in the Rue Michel Bizot, and the Bretonneau in the Rue Carpeaux. Including the Hospital for Sick Children in the Rue de Sèvres, formerly called the Hôpital de l'Enfant-Jésus, Paris will have four hospitals for children at convenient distances apart, so that mothers will not have to go very far for consultation. The last-mentioned hospital has been considerably enlarged and last year some isolation wards were built which are looked upon as models of construction and fitting. Paris will henceforth be able to offer opportunities for the study of children's diseases such as few other towns in the world can afford.

The Monument to Pelletier and Caventou.

A monument in memory of Pelletier and Caventou, the two discoverers of quinine, has just been erected. It stands in the Boulevard Saint Michel at the corner of the Rue de l'Abbé de l'Epée, close to the School of Pharmacy, and was unveiled on August 7th in great state at 10 o'clock in the morning. M. Marty, a member of the Academy of Medicine, handed over the monument to the town of Paris and M. Edmond Lepelletier returned thanks in the name of the Municipality. The two chemists are represented as standing upon one pedestal. The expenses were defrayed by a subscription among the members of the Pharmaceutical Section of the Academy of Medicine and by the Syndicate of Pharmacists.

The Relations between the Thyroid Gland, the Hair, and the Genital Organs.

M. Gautier, who has been pursuing his researches upon organic arsenic, communicated his latest results to the Academy of Medicine at the meeting held on August 7th. Normal blood contains very little arsenic or iodine, but it is otherwise with menstrual blood, except the menstrual blood of anæmic patients. At every period the thyroid gland discharges nearly the whole of its arsenic. Iodine is four and half times more abundant in menstrual blood than in normal blood. Both elements have their origin in the thyroid gland which establishes a relation between this gland and the menses and is at the same time a confirmation of the relation anciently said to exist between the thyroid body and the genital organs. In the lower animals the arsenical nucleins of the thyroid increase the growth of the hair and this increase is specially marked between the rutting periods. In men these nucleins are devoted to the growth of the hair and beard, not having to be eliminated by the menses as in women. Women treated with the cacodylates show an increased growth of the hair and the menstrual flow becomes more abundant. In tuberculous patients the arsenic and iodine may disappear from the thyroid, and hence affections of the hair and skin in such patients can be improved by administering these elements. These facts explain the favourable influence of arsenic upon cutaneous affection and upon the growth of the hair. Replying to the objection of M. Fournier, who said that he had never seen a case of cure of prurigo gestationis, or for the matter of that of any skin disease by arsenic, M. Gautier said that he never used mineral arsenic but only arsenic in the form of the cacodylates.

August 14th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Statistics of Diabetes.

DR. GEORG HEIMANN of Berlin has published in the *Deutsche Medicinische Wochenschrift* some interesting statistics of the frequency of diabetes in Prussia. The number of deaths from this disease in Prussia as given by the Royal Statistical Office was 12,929 during the period from 1877 to 1897 and of these 4889—37·8 per cent.—were deaths of females. On an average 378 persons died from diabetes annually from 1877 to 1886, of whom 237 were males and 141 were females. From 1887 to 1896 the average annual number of deaths was 796, 494 being males and 302 being females. In 1897 the deaths were 1186, 735 being males and 451 being females. In 1877, 1887, and 1897 the death-rates of males per 100,000 of the male population were 1·0, 2·4, and 4·7 respectively, the corresponding death-rates for females per 100,000 of the female population being 0·7, 1·6, and 2·8 respectively. The increase of mortality from diabetes is due probably to a better knowledge of the disease, the diagnosis being made now in a greater number of cases. There are certainly many more cases than are recorded in the official tables owing to the deficiency of death certificates in country places, and it is very significant that of 1186 deaths

in 1897 there were 823 reported from towns and 363 from the country. No figures are available showing how many patients actually suffer from diabetes; the Statistical Office is only able to record those under observation in hospitals, sanatoria, &c., as the number of patients treated at home is of course not known. In institutions of the above-mentioned kind 7285 cases of diabetes were admitted from 1877 to 1897, the annual totals rising steadily from 117 in 1877 to 895 in 1897. Of 1000 hospital patients there were 0·5 diabetic in 1877, 0·7 in 1887, and 1·4 in 1897. The proportion of males among the cases of diabetes for the 21 years from 1877 to 1897 was 73·6 per cent. Of all the diabetic patients in the hospitals 1410 (19·3 per cent.) died, the disease being more fatal in women with a death-rate of 22·6 per cent. than in men with a death-rate of 18·2 per cent. As regards age it is stated that persons under 30 years were relatively seldom affected (about 18 per cent.), those upwards of 40 years being the majority (70 per cent.). Of the hospital patients the youngest was six years and the oldest was 80 years of age. The death of one child aged three months was recorded. As regards the profession or occupation of the patients the greater number of them were engaged in trade or commerce and the disease occurred relatively often among the well-to-do. The complications recorded and the number of cases in which they presented themselves were as follows: tuberculosis in 56, Bright's disease in 21, cataract in three, carbuncle in 40, and gangrene in 101; 36 of the cases of gangrene died. Of the 895 hospital patients 165 died, 35 of them from coma. In the Prussian army from 1893 to 1897 there were 130 cases of diabetes with 27 deaths.

Plague in Hamburg.

It has been officially announced by the Hamburg authorities that a steward on board a steamer which recently arrived in that port was found to be suffering from plague and was removed to the Eppendorf Hospital, where he died. No other cases have hitherto appeared. The steamer has been disinfected and is in quarantine.

The Military Expedition to China.

The care of the health of troops embarked for China has been an object of great solicitude to the military authorities, and all the officers have received a small pamphlet containing hygienic rules to be observed on board ship and in the Far East. The pamphlet is written in a style intelligible to ordinary readers, and the officers have been ordered to give their men instruction in the subjects dealt with in it. This is the more necessary as the China expedition is the first in which German troops have been engaged on a large scale in a war out of Europe. The troops have been provided with different uniforms for the hot and cold season; the summer uniform consists of khaki and a straw hat, the winter uniform of stout cloth and furs. With a view to prevent scurvy and similar diseases great quantities of preserved vegetables and anti-scorbutics have been sent to China. Apparatus for the sterilisation of drinking-water by boiling and by bromine, as suggested by Dr. Schumberg, has also been provided. Army medical officers specially trained in bacteriological work have been sent with the army and it will be their duty not only to examine the food and the drinking-water, but also to investigate any conditions which might have a significance in connexion with an outbreak of disease. The army medical corps is, of course, much more numerous than in an European war, one army medical officer being sent for each 120 men. The special medical staff consists of a bearer company and of four field hospitals for 200 patients each. For the erection of stationary hospitals 127 tents and 15 barracks have been sent with all the necessary staff and material. Two hospital ships have been chartered from the North German Lloyd for the conveyance of sick and wounded soldiers to Europe.

August 13th.

Obituary.

ERNEST ARTHUR TAYLOR STEELE, L.R.C.P. LOND., M.R.C.S. ENG.

MR. E. A. T. STEELE of Byford House, York-road, Southend, died there on July 25th after a painful illness of some 10 weeks' duration. He received his professional education at University College, Liverpool, where he had a highly successful career as a student, and in 1888 he took the diplomas of L.R.C.P. Lond. and M.R.C.S. Eng. After being house surgeon under Sir W. Mitchell Banks at the Liverpool Royal Infirmary he became medical officer at the Dispensary, Worksop. He then settled in Plaistow, Essex, where he soon showed his talent for surgery and gynæcology, and chiefly through his exertions St. Mary's Children's Hospital was gradually built up from a very small beginning to the successful institution it has now become. He also found time in the midst of a very busy practice to act as honorary medical officer to the Plaistow Maternity Charity and District Nurses' Home, and the loss of his ever ready help and skill was deeply felt when he was obliged in 1897 to relinquish his practice in Plaistow owing to failing health and seek less onerous work at Southend. Here he soon built up a practice and gained many friends. In spite of increasing weakness and pain he battled on bravely for three years more, working to the last and only giving up when he was no longer able to move about. All who were brought into contact with him recognised his talent and capacities and deplore his death at the early age of 34 years. He leaves a widow and one child. Two accounts of successful operations performed by him appeared in THE LANCET in 1899, one being for the removal of suppurating cysts of both ovaries and the other for strangulated inguinal hernia.

Medical News.

VACCINATION AWARD.—Mr. J. R. White, M.B. T.C.D., L.R.C.S. Irel., of Kelvedon Hatch, Brentwood, has been awarded the vaccination grant for the sixth time.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—At the recent examination the following scholarships were awarded:—Lawrence scholarship and gold medal, C. J. Thomas; Brackenbury medical scholarship, A. T. Pridham; Brackenbury surgical scholarship, C. E. West; senior scholarship in anatomy, physiology, and chemistry, M. E. Waterfield; entrance scholarships—junior, I. D. Clements-Smith and K. S. Wise (equal), Jeaffreson exhibition, M. B. Reichwald, and Shuter scholarship, H. H. Dale; and Kirkes scholarship and gold medal, A. E. H. Thomas. The next examination for entrance scholarships will take place on Sept. 26th.

THE OFFICE OF CITY ANALYST, MANCHESTER.—Rates tend to rise and city councillors in their occasional attempts to reduce expenses are apt to lay hands where possible on the modest gains of the professional men employed in municipal work. It was therefore moved at the last meeting of the Manchester City Council "That a committee be appointed to inquire into the administration of the city analyst's department with a view to its reorganisation on a more economical basis." All personal feeling was disclaimed and it was acknowledged that Mr. Estcourt did his work well. He was appointed in 1873 at a salary of £150 a year, and in 1882 it was arranged that he was to have in addition a fee of 7*s.* 6*d.* per sample on all samples received for analysis beyond 200 per annum, and later still it was decided that on all samples beyond 800 per annum he should receive 5*s.* per sample. Last year these fees came to £470, and in addition to this the corporation paid Professor Delépine £436 in fees for bacteriological analysis. Fees were also paid by the waterworks department for analysing the town's water-supply. It was decided to appoint a special committee to inquire into the whole subject of the analytical work of the corporation, of the employment by the corporation of its own officials, and to consider the question of the appointment of a city bacteriologist. As Mr. Alderman McDougal held, there was no city analyst, except for matters under the Food and Drugs Act, and no city analyst department. Mr. Estcourt's appointment could only be terminated with the approval of the Local Government Board "and that would not be easily obtained." He further stated that while Manchester paid an average of 7*s.* 1*d.* per sample Salford paid 7*s.* 4*d.*, but Liverpool paid 13*s.*, and in some towns the fees averaged as high as a guinea per sample. It may be that the council, notwithstanding its anxiety to reduce the cost of applied science, had better bear the ills it has than fly to others that it knows not of.

THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

EXTRAORDINARY GENERAL MEETING HELD AT THE HOSPITAL, QUEEN SQUARE, W.C.,

ON SATURDAY, AUGUST 11, 1900.

MR. PEARMAN—I beg to move that Mr. George Russell take the chair.

SIR GERALD FITZGERALD—I have much pleasure in seconding the resolution.

[Carried unanimously.]

MR. GEORGE RUSSELL took the chair.

THE CHAIRMAN—Ladies and Gentlemen, my first duty is to call upon the Secretary to read the notice convening the Meeting.

[The Secretary read the notice convening the Meeting.]

THE CHAIRMAN—Ladies and Gentlemen, my next duty is to read a letter from the Lord Chancellor, and nobody can be more sensible than I am how greatly it would have been to our advantage if the Lord Chancellor, who is a valued member of our Board of Management, had been able to preside, but on being applied to to take the chair he writes to Mr. Rawlings from the House of Lords as follows:—"Dear Sir, I am very sorry to say that I shall not be able to take the chair next Saturday. I am due to arrive at Homburg on Thursday." Then he concludes by saying that he had hoped it might be possible that his holidays would have been delayed for another week, in which case he would have come to the meeting and taken the chair with pleasure, but as it was he could not delay further as he was bound to be with his wife at Homburg. I think it only due to Lord Halsbury's great position in the world that his expression of good-will towards the hospital and readiness to serve it at this rather critical moment should be made known. I now begin to open the proceedings, and in the first place I have to call the attention of my hearers to the fact that by our Rule No. 6, Section 3, members and governors have a right to speak, but only governors are allowed to vote, and that by Rule 8 of the same section only governors who have been governors for the space of three months are allowed to vote. It will be observed that there is a slight distinction there—only governors to vote and speak, subscribers can speak but not vote. But under existing circumstances, though I have not power to do it myself as Chairman, I will take the indulgence of the meeting for any member of the medical staff who may happen to be here to-day in case he should wish, although not a governor, to be allowed to address the meeting. Of course he would not be able to vote even then. Members of the staff who are governors are disqualified from voting by Rule 10, Section 3, but in case any member of the medical staff should wish to be heard in his own behalf, or in behalf of his colleagues, I would appeal to the meeting to permit him to address it. I have no reason to believe that anybody wishes to intervene, but in case it turns out that a member of the medical staff should so wish to be heard, I will ask the indulgence of my hearers to give him an audience. Some apologies are necessary I feel to those who have been good enough, I fear at some inconvenience, to respond to this invitation for the period of the year at which the meeting is convened, but really the responsibility does not rest with us as a Board of Management, but with the medical staff. The statement to the governors dated May, 1900, was really only issued on June 16th. The Board's reply was issued on July 24th, and the fact that it was issued as soon as that shows that we have not been wasting our time, because the interval has been occupied by the inquiry conducted by the special committee which was appointed to look into the domestic condition and the administration of the hospital. We thought it our duty to hold that inquiry before we replied to the governors in order that we might have a definite answer to the allegation of mismanagement to place before the governors when we addressed them. That accounted for the time up to July 24th, and the letter of the medical staff in the *Times* of July 28th was the first statement by the staff that the differences between them and the Board of Management were irreconcilable. When that was publicly announced we felt that it was impossible for us to delay taking some practical notice of it. We should have felt that we were to blame and that the governors of the hospital to whom we are ultimately responsible would justly hold us to blame if we allowed any time to be wasted between that declaration of an irreconcilable difference of opinion and the summoning of a meeting. We were bound, we considered, in the interests of the hospital to take the very earliest opportunity open to us for calling the governors, or such of the governors as would consent to be called together, for the purpose of hearing this question argued out. The board meeting was summoned on the very day as that on which the declaration of the medical staff appeared in the *Times*, and it was summoned for the earliest day possible, and for the meeting of the governors again the earliest day possible, was decided upon at the board meeting. To-day, therefore, is the very first day in which, conformably with the rules of the hospital, this special meeting of the governors could have been called together. It will be observed by those ladies and gentlemen who looked into these proceedings in their earlier stages that two entirely distinct questions are submitted to it for decision. I will label them, for the sake of clearness, Question A and Question B. Question A is a question whether the rule of the hospital, No. 5 of Section 5, should be altered so as to allow the medical staff to sit on the Board of Management. Question B is a question whether there shall be a further inquiry into the actual condition and management of the hospital as it now is. We considered these two questions to be of very different importance, and for convenience' sake I will invert their order and deal with Question B first—the question whether it is necessary to hold a further inquiry into the actual condition, working, nursing, management and so forth of the hospital. I have had the honour of a seat on this board for exactly ten years, and during those ten years I have by no means considered my duty discharged by attendance at board meetings or meetings of the House Committee. I have made it during all those ten years a practice to visit systematically the wards of the hospital, and I think—there may be exceptions of course with regard to times when one is absent from London—that I have been almost always a weekly visitor to the hospital during all those ten years. I have cultivated what I think I may call friendly relations with our patients of all classes and conditions past and present. For I have made it a point, whenever circumstances permitted, to keep up some sort of knowledge of those patients who have left us in a more or less restored condition, partly with the view of helping them in the altered conditions of their subsequent life, and partly on account of the genuinely friendly feelings engendered by a constant intercourse with them during the time that they resided in our wards. In addition to that, I proposed the other day, as it is the wish of my colleagues, the appointment of a special sub-committee of inquiry into the internal condition of the hospital. That inquiry may really be called exhaustive. We examined with great care—and be it remembered that we had in the person of Mr. Pearman a gentleman on that committee well versed in the conduct of legal business—all the responsible authorities of the hospital from secretary-director and lady-superintendent down through the sisters, stewards and the cook—the latter a by no means unimportant element in such an inquiry as we were then conducting. We also paid surprise visits to the wards, the kitchen, the offices and the basement, and gave rather special attention to the actual condition of the food as it was sent up to the wards. The total result of our experience—in my case an experience prolonged for ten years—is that, in our opinion, no further inquiry is necessary. It would be ridiculous to say that the arrangements of any hospital were not susceptible of some improvement. I cannot conceive that anybody who has any experience of house-keeping on a large or small scale would maintain that it was possible to keep every detail of a very large establishment such as this in absolutely perfect and ideal order from week to week over a period of ten years, but such faults as we did discover may fairly be written down as infinitesimal, and as well within the power and the will of the Board to remedy the moment they are brought to the Board's notice. It is to be borne in mind that a further inquiry if conducted by a legal authority from outside would be a costly business, and during this process would more or less interfere with the ordinary work and every-day life of the hospital. But these considerations, although they are for the Governors to bear in mind, would not affect our view as to the desirability of holding an inquiry. If the governors think that further inquiry is necessary in the interests of the patients or for the satisfaction of their own minds on the subject, I am instructed by my colleagues, the Board, to mention that we should offer no kind of opposition, and we should stipulate only that the inquiry should be conducted by an impartial authority and by somebody well accustomed to the sifting of evidence. Granted those conditions, we should be ready to agree to render all the assistance in our power to make the inquiry exhaustive and complete, being well assured in our own consciences that this hospital has nothing to fear from the closest examination or the widest publicity. So much for Question B—the question as to whether further inquiry into the affairs of the hospital is necessary. I now come in the inverse order to Question A, and with regard to that the attitude of my colleagues who are on the Board of Management, and myself is extremely different from the attitude we take with reference to a further inquiry into the state of the hospital. We feel convinced that the demand of the medical staff for admission to the Board must be resisted. It is, as you know, at present forbidden by Rule 5 of Section 5. That rule was passed twenty years ago, and I am informed—I think it was before the time of my connection with the hospital—that Mr. Chandler, whose name must always be mentioned with gratitude and with honour within these walls as one of the founders of this institution, was a party to the passing of this rule by which the medical officers of this hospital were excluded from the Board of Management. The rule under which they are excluded from or rendered incapable of sitting on the Board of Management is, I am told, in force also at the London Hospital, at St. Bartholomew's, at the Middlesex, at the Brompton Consumption Hospital,[1] at the London Fever Hospital, and at the City of London Chest Hospital. It therefore cannot be argued that a rule obtaining in such hospitals as those is unique or even exceptional. The reasons on which the Board found themselves in their firm opposition to this demand may briefly be stated as follows: We consider that the functions of the medical staff which

[1] Dr. J. E. Pollock, in the *Times* of August 14th, points out that this is a mistake so far as the Brompton Consumption Hospital is concerned.—ED. L.

are well defined in the rules may call for the exercise of discipline on the part of the Board, and where that is the case it would be obviously—to put it in the very mildest way—a very inconvenient arrangement that gentlemen whose conduct might be called in question should be themselves the members of the tribunal to which that question would have to be submitted. Amongst matters possibly affecting the staff which might from time to time be brought by way of the exercise of discipline before the notice of the Board of Management, I may mention, just by way of illustration, the following: The question of regularity of attendance on patients according to the rules; the question of leave of absence and provision for professional substitutes during absence; the admission of patients according to the rules—that is the admission only of such patients as those who are suitable for treatment at this hospital. In passing, I may say that that point is liable perhaps to some amount of misconstruction. It may very properly be urged that a medical man is the best judge as to whether a patient's state is such as to make it desirable to admit him to the hospital or not. Yes, that is so, but we are hemmed in in one direction by a legal restriction. I believe I am right in saying—of course I speak in the presence of lawyers—that the matter is an exceedingly perilous one in connection with the powers of the Lunacy Commission to harbour in any building, public or private, any person of unsound mind unless the house in which he is harboured is a duly licensed house. Cases might arise where the person applying for admission here, or where friends applied for admission for him, was a person of unsound intellect. In that case by our absolute rule we are forbidden from admitting such a one into the hospital. Although his condition might be such as to justify a medical man in saying that he would be the better for the treatment provided here, we should be legally restricted from admitting such a one into our wards, and should be obliged to refer such a case through the relations to the authorities properly responsible for the custody of those mentally infirm. And then, again, there is the important question of complaints made by patients against the medical staff. I am not saying that such complaints are made—that is not my business at the present moment to say whether they are or are not made, but very obviously complaints might arise. There might be questions of neglect in which a patient might feel himself aggrieved and in which he would be fully justified in appealing to the Board of Management, and we feel that it would be wholly inconsistent with the notions of order and propriety that medical men whose conduct was called in question in such a matter as that should be judges in their own cause. It seems to me obvious that gentlemen whose conduct might be called in question cannot properly sit on the tribunal by which the charge has to be investigated. But, although we feel very strongly that this direct admission to membership of the Board would be an alteration fundamental and vital in the rules and constitution of the hospital which we cannot be parties to, we still feel very strongly, and I welcome this opportunity of publicly stating it, that there is the greatest value in a free interchange of opinion between the medical staff and the Board of Management. For that purpose, and to promote that free interchange of opinion, the Medical Committee exists. If I am rightly informed, every member of the staff is a member of the Medical Committee. Therefore, there can be no doubt that the sentiments, views, and opinions of the medical staff will be adequately represented by the Medical Committee, and that free communication between the Medical Committee representing the staff, and, indeed, consisting of the staff and the Board of Management, is by us both desired and encouraged. Be it borne in mind that no medical matter—no matter affecting the food, treatment, or nursing of the patients—is ever dealt with by the Board of Management without reference to the Medical Committee, and all the representations of the Medical Committee, whether invited or volunteered, are invariably regarded by the Board with a most careful courtesy and careful consideration. But the Board of course must reserve to itself the power of dealing in the long run on their own responsibility with cases as they arise, but there has been no instance, so far as I know of, when any recommendation of the Medical Committee has been disregarded or treated lightly. On the contrary, it has always been carefully weighed by us and decided upon its merits. If my own assurance on that point were regarded as insufficient, I could confidently refer the governors of the hospital to the statement made by the medical staff itself in their letters circulated through the governors of the hospital under the head of "Diet of Patients," where readers will see that recommendations by the medical staff have been, on the showing of the medical staff, sanctioned and adopted in every detail by the Board of Management. If the Medical Committee stands, so to say, on the one hand as representing the medical staff, so the Board of Management stands on the other side as representing the general body of the governors, and as it seems to me a very suitable medium of communication between the committee and the Board of Management is found in the person of the secretary-director. As a part, and a considerable part, of this recent dispute has fallen upon the secretary-director, I think it only due to him and due to the hospital to point out that in spite of all that has come and gone there seems to be no general hostility to the gentleman who now fills the office of secretary-director. I do not dispute, and I am sorry to say that I cannot well dispute, that there are not individual instances in which some ill-feeling towards Mr. Rawlings has been displayed; but taking the general tone of the medical staff it remains, I believe, on the whole courteous and amicable, and that that is so is evidenced by the fact that frequent letters pass even still between the Medical Committee and their secretary and Mr. Rawlings as representing the Board, and that those letters are still couched in language that is perfectly consistent with friendliness and courtesy. But that does not exhaust the possibilities of intercourse between the two authorities—between the Board of Management and the Medical Committee—and although, as I say, the fact that we have such an officer as the secretary-director and that he is so able and efficient seems to point to Mr. Rawlings as the most obvious channel of communication, still we have never dreamed of restricting the medical staff to communicating with us through that channel. We have always invited the freest possible expression of opinion, whether by letters or by personal interviews, and at one time the system of sending two delegates or representatives to the Medical Committee from the Board of Management seemed to be working well and likely to be attended with good results, and I, for my own part, very much regret the decision of the medical staff to discontinue that mode of communicating their views. I fully admit that there are cases in which direct communication face to face may be more satisfactory than any amount of correspondence through a third person. Points may be more easily explained face to face, and misconstruction or misapprehension may be more easily removed in a personal interview, than when the correspondence is conducted on paper through the secretary of the Medical Committee on the one side and the secretary of the hospital on the other. Therefore, we have all along welcomed, and shall continue to welcome, any suggestion on behalf of the medical staff for a system of personal communication between themselves and the Board short of their direct inclusion on the Board of Management. The demand for their direct representation on the Board of Management only became acute in the spring of 1899, and I would have my hearers to bear very carefully in mind, for it is important in reference to what comes later, that when in the spring of 1899 this scheme for direct representation on the Board of Management was very forcibly urged, it was not grounded on an allegation that the patients were suffering from neglect. No allegation of that kind was made, or hinted at, or suggested. The sole cause then assigned for this urgent demand for representation on the Board of Management was the fact that the Board had recently introduced the system of payments by out-patients towards the cost of their medicines, and this was an arrangement to which the staff on general considerations of the interests of the local profession, entertained an objection. I am bound on that point to say a word of justification for the course which the Board adopted. The income of this hospital does not increase by leaps and bounds. We are made custodians of the purse of the hospital, and it is quite obvious, and hardly needs saying, that we could wish it fuller than it is. The outgoings, the expenditure of the hospital in some departments has partly increased, and this is very largely due to alterations in the system of treatment. Of course I should be the last person in the world to canvass the wisdom or propriety of the changes in treatment which the medical staff think proper to introduce. They are probably the best judges in Europe of the cases which are brought under their care, and their views as to the right methods of treatment, diet, and the like are entitled to absolute respect; but in the exercise of their discretion they have of late years made such alterations in the nature of the diets as to very materially increase what may be called in homely phrase our housekeeping expenses. While our revenue shows no great signs of elasticity, our housekeeping expenditure does advance by leaps and bounds, and it occurred to those who have the interests of the hospital at heart that a very convenient and perfectly harmless way of meeting this increased expenditure would be not to compel but to invite payments from different patients for the medicine which they receive. It was never suggested that they should pay for the medical attendance that they receive. It was never suggested that they should pay for the benefit, or suppose themselves to be paying for the benefit, of the great medical skill and science which are brought to their assistance. All that was suggested was that patients not rich, and yet not abjectly poor, might welcome the opportunity of making an expenditure of sixpence or a shilling or so on medicine, which, if they were not patients here, they would have to buy at a chemist's shop, and we also felt that it would in many cases be a relief to the minds of those more respectable though not affluent persons if they felt that they were receiving their benefits absolutely without any return—that they would like to feel in fact that they were not paupers, but that they were making some small contribution to the expenses of the institution from which they were deriving unquestionable good. And it was therefore decided to offer them the opportunity—not to compel them—of contributing towards the expenses of the medicines which they here receive, and I may say that, although in the general interests of the profession the medical staff objected to the alteration, it has been found in practice to work well, and has produced without hardship to or pressure upon anyone an increase to the revenues of the hospital of between £800 and £900 in the year. That must be admitted I think to be a financial reform which was worth carrying out, and so far as I can see it involves no hardship to any living creature. It is important that it should be borne in mind that the class of patients has not altered, but is composed of just the same sort of people as it was before, but they are people who welcome the opportunity which you see was not previously afforded them of making some slight return to the hospital for the benefits which they are conscious of receiving from the hospital. The Board, in the financial interests of the hospital—for they only were at stake in this matter—felt themselves bound to maintain this change in the rules and to allow persons to contribute, but last year the Medical staff, in the exercise of their discretion, thought right to bring the

matter before the Hospital Sunday Fund with the view, as I understand, to the suspension or the refusal of the original grant. Then the matter remained for some time in abeyance and suddenly in the middle of June of this year a statement dated May, 1900, was sent out to the governors, and in order to show you how anxious we were that there should be no concealment about the matter and that every conceivable charge or allegation against us should be dragged into the light of day, I may mention this fact that where the medical staff were unable to find the addresses of the governors, which was the case in a certain number of instances, they merely forwarded a number of the copies of the memorial to the care of Mr. Rawlings or left them at the office with a request that they should be sent on and we, as far as our opportunities for finding the addresses of the governors sufficed, were careful to send every one of those memorials on to those to whom they were addressed, thus showing unmistakably that we had nothing to fear from the fullest investigation by yourselves, ladies and gentlemen, and by your brother and sister governors to whom we are responsible. I would now invite your attention to the statement circulated by the medical staff in the letter to the governors of the National Hospital, and you will observe that in that statement on its first page the claim to admission to the Board of Management is made to rest solely on the ground that the patients are suffering from evils of administration, the only cure for which would be to grant the medical staff direct representation on the Board of Management. That is the only ground on which the alteration in our rule is demanded. It is alleged that our patients are suffering from certain abuses which the presence of medical men on the Board would correct. Considering that this is the ground on which this all-important change is recommended to your consideration, it is necessary, I think, that the ground should be carefully examined. It appears to us that in advancing their claim to admission on the Board on this ground, that the patients are improperly or insufficiently attended, the medical staff put themselves in this position—they are gentlemen who, in the day by day performance of their duties must necessarily be acquainted with the work of the hospital. In the interests of the patients, no less than in that of the scientific reputation of the hospital, any shortcomings which they observe should have been made the subject of complaint or remonstrance to some person in authority. If it is true, as they say, that their patients were improperly fed, that their sheets were not sufficiently changed, that the nursing was insufficient, that the massage could not be adequately carried out, or if they observed, in a word, any other defect or abuse in the treatment of their patients, it would seem to me merely a matter of common sense to allege that they were bound in the interests of humanity and of the reputation of the hospital to report the circumstances directly to those in authority. But, as far as we can ascertain, and in truth I say we have ascertained it absolutely, the staff have never, down to the issue of their statement on June 16th this year, suggested that the domestic condition of the hospital was other than perfectly satisfactory. We infer, therefore, and we are driven to the inference, that the allegations and suggestions of mismanagement and insufficient or improper attendance cannot possibly be well founded. In fact, I have only to ask you to consider in what a very invidious light the staff are placing themselves, supposing that these allegations be proved to be well founded, for they would then be in the position of men who had deliberately allowed abuses and defects which came under their notice to remain unredressed during a very considerable period of time. I cannot for my own part believe that the medical staff of this hospital, whose personal and professional reputation is of the very highest character, would ever have sanctioned the withholding from persons in authority any of the grievances of patients if they had really found such grievances to exist. Assuming, however, just for argument's sake, what I do not believe, that the allegations made by the staff were well founded, I would say that it is obvious that gentlemen who never breathed a word of those evils to the secretary-director or to the Board, and have never taken the trouble even, as far as I can make out, to point out any of these abuses in the frequent letters which they have addressed to Mr. Rawlings, would not be a valuable accession to any Board of Management. It seems to me that the very fact, assuming it to be a fact, that they had allowed these evils to go unnoticed and unredressed, would be of itself a proof that they were not well qualified for a share in the practical administration and management of an institution which requires promptness and activity and business-like qualities in those who conduct its business. I feel that the fact, and I harp upon it because I feel that it is vital, that the medical staff have never made any representations about the patients being badly fed, or not kept clean, or badly nursed, is enough to dispose of the charges, but, if it were not enough, and supposing other testimony besides that of our own committee of inquiry were required, it is forthcoming in the evidence of Mr. Sidney Holland and Sir Henry Burdett. I do not suppose that there are any two gentlemen in England whose names are better known in connection with hospital work and hospital administration than those gentlemen; they have paid exhaustive visits to the hospital, and have declared themselves perfectly satisfied with what they saw here, and in proof of that statement I have only to refer you to what I daresay you have already seen—Sir Henry Burdett's letter in the *Times* of August 8th. Then it is to be borne in mind, and this is another proof, I think, that our internal condition is not unsatisfactory, that the doctors have continued to send patients for admission to the hospital, which surely they would not do in the case of a hospital as mismanaged as would appear from their statement to the governors this one is, and not only that, but have continued to communicate with the Board by letters addressed to the secretary-director, on all such matters touching payments to the hospital staff and other points of domestic administration, although the letter circulated no doubt would perhaps convey the impression that all communications had ceased. I now approach a subject which has been one of acute controversy during the last few weeks, and that is the Hospital Sunday Fund. Here I feel, and I am sorry to have to say it, though I must say it in the interests of truth, a very great cause of complaint against the medical staff exists. If we are correctly informed, the medical staff have used their best endeavours to secure the suspension of the usual grant from the Hospital Sunday Fund. This does not seem to be in the nature of legitimate warfare. The medical staff have a perfect right of course to request and even agitate for admission to the Board of Management, but pending the decision of that question by those who alone have power to decide it—that is the governors—it seems to me to be in the highest degree unfriendly and injurious to the hospital of which they are the officers that they should, either directly or indirectly, endeavour to procure the suspension or refusal of our usual grant from the Hospital Sunday Fund. I, for my own part, have reason to believe that that grant is only, in spite of the efforts made at the Mansion House, suspended and not permanently withheld, and I believe that the Hospital Sunday Fund authorities, when they realise the true position of matters as set forth on pages 8, 9, and 10 of the Board's reply to the letter of the medical staff, will reconsider the decision at which they lately arrived, and will renew the grant, which, as I say, I believe was actually stated to have been not refused but only temporarily withheld. Now I said at the very beginning that I should endeavour to keep quite distinct the two questions about representation of the medical staff on the Board of Management and the question of a further inquiry into the administration of the hospital. I refer to that question further, namely, the administration of the hospital, only to say this much: that should the governors decide and order it to be held, whatever its results, it would not affect the grounds on which we oppose the admission of the medical men to the Board of Management, and we could not ourselves be parties to referring to any outside authority—arbitrator or referee however distinguished—that question of the admission of the medical staff to the Board of Management. We hold that to be vital. We have expressed our opinion upon it again and again, and we ourselves, as I say, could not consistently with self-respect submit the decision of that to any outside authority. It remains, of course, in the hands of the governors, but we could not invite the opinion of an outside referee upon such a point as this. On the other hand, as to the internal administration of the hospital, and the comfort and care of the patients, we, as I said before, should welcome any inquiry by a properly qualified referee. In the medical staff's statement to the governors, as I said before, they base their demand for representation entirely and exclusively upon the alleged unsatisfactory condition of the hospital and it would seem that they did so because they thought that the governors would not be easily affected on any other argument, but having chosen their ground, we contend that the medical staff must be held to it and that the issue they raise must be the issue tried and decided upon. They must not be allowed to drop and ignore these charges and to argue questions of their admission to the Board on general grounds. In so far as I have now spoken, I have spoken after full consultation with gentlemen at least equally interested with myself in the hospital and with our legal advisers. I now wish to say that in my concluding remarks I am speaking entirely on my own responsibility without committing my colleagues on the Board of Management. A reason that weighs with me very heavily against the admission of doctors, physicians or surgeons to our Board of Management is this. They are specialists, they are as I said just now among the most eminent specialists in Europe, but the experience of life in various departments and vicissitudes of it has taught me this—that experts are not the best guides in the practical business of a large going concern. An expert in the subject in which he is an expert is an authority to be treated with the utmost deference, but in the general conduct of human life and of human interests, and more particularly in such business as the financial and administrative work of an institution like this, I for my own part never find that the expert's opinion is worth more than that of an ordinary man of the world. In truth, the very fact that he is an expert to some extent tends to narrow the range of his observation and to make points, in themselves comparatively small, loom very large in his view, and to destroy his general sense of the proportion and the relations of things. For my part, therefore, I discount altogether the argument that these medical and surgical gentlemen should be admitted to the Board of Management because they are experts in their profession. As experts in their profession we welcome them, are proud of them, and are thankful for the services they render to our patients, but in the general and financial control and administration of the hospital we think that a Board which includes the Lord Chancellor of England and the head of Coutts's bank is quite able to transact its own business without the assistance of even the most eminent men of science. And that brings me to my concluding remark; and here again I am not committing my colleagues, but I am speaking only of my own opinion and from my own experience. I do not propose at this late period of my speech, and in a mixed audience, to argue the rights and wrongs of the great subject of vivisection. I do not say whether the prejudice which exists against it is a well- or ill-founded prejudice. I only know that the prejudice does exist, and I am assured by those who have the best means of knowing, namely, by journalists and

pressmen, who can judge of the matter from the correspondence which pours in through the editorial letter-box, that the prejudice and feeling against vivisection is markedly on the increase. I am not arguing for it or against it—I am not saying whether I myself share or do not share in the prejudice against vivisection, but I recognise it is a great operative fact, and one which those who have the interests of this hospital at heart would be very foolish to disregard. It operates in various ways, but it operates in a real way among the working classes. Those who are familiar or conversant with the working classes must have heard it again and again alleged by artisans as a reason against subscribing to the Hospital Sunday Fund that in the hospitals experiments were performed on the poor for the benefit of the rich; and again I am not saying, of course, whether that is a well-founded or an ill-founded suspicion, but I recognise it as one that I have come across very often, but I take it into account as a fact. Then, in the higher and better educated and informed classes of society, I find exactly the same opinion, though perhaps not quite so bluntly expressed, operating with and determining men, and I have heard it again and again said, and I believe every one associated with the finances of this hospital has heard the same thing, "We are not willing to give our money to an institution where prominent vivisectors are on the staff." Now I have again and again had to point out that this is an unreasonable position, and I have again and again had to point out that we have no school or laboratory, or, as I believe the euphemism is, no physiological laboratory attached to this hospital, and that here the interests of humanity are at least as safe as they are in any other similar institution. I have again and again had to fight the battle of the hospital in that regard, but for all that, one's representations do not by any means always prevail, and there are notorious instances where large sums of money have been actually withheld from the hospital on account of this fear, reasonable or unreasonable, that the money might in some way be used directly or indirectly for what is called the promotion of research. At the risk of being wearisome I have to say that I have expressed no opinion as to the reasonableness of those fears or prejudice against vivisection. I have expressed strong opinions against the reasonableness of any fears with regard to the actual practice of this hospital. I have tried to reassure my friends by pointing to the simple fact that we have no physiological laboratory, but if this amount of prejudice exists, and if in addition to having associated with your medical staff gentlemen who are vivisectionists you have those same gentlemen included on your Board of Management, how very much stronger that prejudice might become, and how much larger would be the stoppage or withdrawal of financial support. For my part I desire here again as I did at the Conference with the Sunday Hospital authorities at the Mansion House, to affirm that with the most trifling exception we have been throughout on friendly terms with the staff of this hospital, that we desire to cultivate friendly terms with them, and that we have the strongest confidence in their humanity and in their uprightness as well as in their scientific skill. It was, indeed, at the instance curiously enough of one of the medical staff of this hospital—one of the most eminent members of that staff—that I was induced to join the Board, and I have always been very grateful to that eminent man of science for the opportunity he gave me of being associated with a work of philanthropy and mercy which has taught me many invaluable lessons, and in the fortunes of which I must always be most profoundly interested. It is essentially a work of Christian philanthropy, and it is in our judgment to be conducted in the spirit of its founders, and in the sole interests of suffering humanity. It was judged expedient by my colleagues on the Board that the resolution, the only one which is to be submitted on behalf of the Board, should be moved from the chair, and I therefore formally move on the part of the Board of Management the resolution which is printed on the red card in your hands, "That it is inexpedient to grant the demand of the medical and surgical staff for direct representation upon the Board." That is the resolution which I move, and it will be seconded by Mr. Hopwood of the Railway Department of the Board of Trade.

MR. HOPWOOD—Mr. Chairman, ladies and gentlemen, I was about to say, in common parlance, that I have much pleasure in seconding this resolution. It is, however, I fear, impossible to find any pleasure in matters connected with such a controversy as this. We know these cases. They appear with periodic recrudescence in almost every branch of philanthropic work. They are usually born in evil and nurtured in mischief, and the only result, as far as my experience of them goes, is that a little more misery and a little more distress rests at the doors of those who are seeking help and are in need. In fact, such controversies do the devil's work, but the question is how these cases, when they arise, are best met, and I say that they are best met by the application of good administration and of sound business principles. There is no distinction to be drawn between an undertaking of this kind and any other large commercial undertaking in the country. It matters not that this is a hospital. The same principles of business and of administration are equally to be applied to great concerns whether hospitals, banks, railways, or shipping companies. The governing body are trustees for the benevolent public and also for the suffering patients. What is the duty of trustees? The duty of trustees is to take the same care and have the same diligence with the matters entrusted to them, as trustees, as they would in connection with their own private affairs, and the question is, whether the governing body of this institution, acting as trustees, have displayed a good discretion in declining to entertain the application of the medical staff for representation upon their Board. In my judgment they used good discretion, and I hope they will maintain their position to the end. We hear, in these days, of strikes and lock-outs, but I have never yet heard that servants in an undertaking like, say, the London and North Western Railway have gone so far as to ask for direct representation on the Board of Directors for the purpose of repairing deficiencies in the management of the line. And what would be said by a man like our Sir John Blundell Maple, if his servants waited upon him and threatened to bring about his ears those great premises in the Tottenham-court-road if he declined to put two of his cabinet-makers on his directorate? Directly you apply the ordinary principles of business life to this trouble you find the position of the medical staff is totally inadmissible, and it is because I feel that it is totally inadmissible, and because the directors—the governing body—of this institution are, in my judgment, doing their best, as trustees, to properly administer this hospital; and it is because they have apparently laid hold of the cardinal point—that hospitals are constructed for the benefit of the patients and not of the doctors—that I cordially second this resolution.

THE CHAIRMAN—The resolution has now been proposed and seconded and I have to invite any governor or subscriber or any member of the medical staff to speak on it. I only have to ask that any lady or gentleman who speaks will be kind enough to give his or her name to the reporters so that it may get down on the shorthand notes.

MR. BOWER—Mr. Chairman, ladies and gentlemen, it is now about 30 or 40 years ago since I first became acquainted with this institution. At that time it was somewhat of a one-horse-power institution, but the enlargement of the hospital and the increase of the utility of the hospital during all those years, from the small beginning when Mr. Chandler founded it to its present state, has been due to the management of the Board aided by the secretary for the time being. Now, sir, we are asked to say that we ought to allow—and the claim is made as of right—the medical staff to be represented on the Board. Now Mr. Chairman, ladies and gentlemen, I have taken a great deal of trouble to read every paper that has been issued in connection with this subject, and I will tell you one fact that strikes me as the strongest proof of how wrong it would be to put them on the Board, and that is the way in which they began this controversy. Now how does it stand on that point? They get a document signed and dated. They do not issue it for a month; and how did they issue it—after communication with the Board of Management either directly or indirectly? No. They took upon themselves to send it broadcast to all the governors so that as much evil as could be done should be done. Now, if there is anything which makes me think that they ought not to come on to the Board of Management that, at any rate, is one reason. But then how have they dealt with this matter since? The Board undertook to have an inquiry and it was one of the first duties of the Board—if I may be allowed to say so—to say to the medical staff "Give us particulars of what your complaints are." That was done; but the medical staff refused to give any particulars in respect of which there had been failure in administration. Is that fair, is that the conduct which one ought to expect from gentlemen on such a staff, and ought they, therefore, to have any right to ask that they should be admitted, or some of them admitted, to the Board of the institution? Those are, it seems to me, the great points besides those which have been pointed out by the Chairman, points which, if I may say so, ought to determine this question. We do not as a rule go to professional men, whether they be eminent surgeons or eminent clergymen, and ask them to go on to a Board as men of business. I will stop there, because I think you will all understand what I mean without further observation.

DR. SEPTIMUS GIBBON—Mr. Chairman, ladies and gentlemen, I think I am older than the last subscriber. I think in the year 1858 I subscribed my first £5, and I have gone on ever since, and have induced my friends to put their money into the hospital. They have asked me what all this agitation is about, and I have said I could not tell them, but that I thought it was a bogus one, and that those who were responsible for it wanted to get free advertisements in the *Times* newspaper and in the medical journals. As to this resolution I quite agree, but there is one point which I shall submit to you, and that is that I think the medical staff, if they are governors, ought to be allowed to vote for representatives on the Board. As I understand the rules, your medical staff are precluded from voting in general meeting. I think that the right of voting might be conceded to them in that respect, as it has been to the medical staff who are governors in St. Bartholomew's Hospital and the London Hospital, and in some of the hospitals that are very well managed. I think if that were conceded to them, it would be a step in the right direction. I understand that at present the members of the medical staff of this hospital, although they were governors and subscribed their money, could not vote in any meeting. I think if the Board of Management would concede that point to them, it would put you right with the public, but certainly I do not approve of their going on the Board of Management, because medical men have not the time in the exigencies of medical practice and the details of medical practice—the details are very numerous and very onerous for men who are in active practice, and they could not give the time necessary for the work. Besides, as a rule, they are bad administrators, although I see there is a letter written by one of our medical staff in a medical paper to the following effect: "Now we ask the governors to consider frankly

to whom the success of administration is due. We have no wish to undervalue the services of the respectable gentlemen and so on. They are entitled to every recognition for the amount of labour they give to this philanthropic work, but after all, to speak plainly, they misconceive their position. In their relation to the hospital they are only hewers of wood and drawers of water. It is not they who built up its reputation. The Board of Management might easily be replaced by a dozen others; the staff could not be replaced. It is the finest medical staff in Europe," and so on. Well, they are not administrators. The success of this hospital is not due to them in the least. If it is due to any one it is due to our friend, Mr. Rawlings, who is the best administrator I have met with. There is only one gentleman in the city who comes up to him, and who is a large merchant. Certainly, Mr. Rawlings has conducted this hospital, because I have been well acquainted with it since its foundation—I attended its first meeting, and I gave my first £5 in the year 1857 or 1858—and I have watched it during its whole course, and I have been Medical Officer of Health for this district, and as far as I know in his administration Mr. Rawlings selects good people, good servants, and the matrons that he has had here have been really first-class. The organisation goes on as free from defects as it is possible to imagine. There are complaints about the quantity of milk, but I understand about 235 quarts of milk are supplied every day. That is the only point. I am a vivisectionist, and I am not an antivivisectionist. I think vivisection has done a great deal for medical science, but I do not approve of our secretary-director being vivisected, and gentlemen being allowed to plunge knives into his reputation. I think that is below contempt, and that personalities ought never to have been allowed.

The CHAIRMAN—Ladies and gentlemen, by the courtesy of the meeting perhaps I might be allowed to say one word in reference to something that fell from Dr. Gibbon with reference to the rules. The rule that he referred to was number 10, section 3, and I may, for the information of the meeting, perhaps, read it. "No person shall vote as a governor while he is a salaried officer of the institution, nor while he holds office on the medical staff." It is not part of my business to defend that rule. I do not know under what conditions or upon what arguments it was based, but I only read it out because I want to invite Dr. Gibbon's attention, and that of the governors and the public, to the fact that it is not confined exclusively to the medical staff, but covers all the officials of the hospital. A very curious instance has arisen with reference to the working of this rule. Owing to the munificence of our excellent chaplain we are indebted to him for the sum of £200 in one gift, and yet, by the operation of this rule, he is precluded from voting as a governor although he was a donor of £200 in one lump sum. I ought, perhaps, to say that my own opinions agree very much with those of Dr. Gibbon with reference to that rule.

MR. MELVILLE GREEN—Mr. Chairman, ladies and gentlemen, I desire to ask whether the medical staff have had notice that they would be heard to-day if they liked to attend this meeting, and that although they are not entitled to vote they would be invited to speak, because it seems to me that their staying away is unfortunate, though on the face of the rule which has just been read it seems to me it was not likely they would be here. I think it is unfortunate because the responsibility of this matter does rest with the whole body of governors. The action of the Board being challenged by the medical staff, the whole body of governors are responsible for the decision to which they may come, and I have seen these proceedings with very great regret because I do not see any way out of them which will be beneficial to the hospital. The motion before us seems to me to be one that if lost or if carried will alike be unfortunate, and if we could find some other way of getting the decision I think it would be a good thing. I do not know whether we could pass by this Question A just as you have done in your speech, and take up Question B and extend that to the entire question of the management of the hospital, and then obtain some small number of eminent men chosen chiefly from the boards of other hospitals to give us a report generally on the whole matter. We should, no doubt, have to meet in order to receive that report some day, but then we should have two advantages that we have not got to-day, we should have for either side a golden bridge. If such a body of men amongst their several recommendations were to say that it would not be desirable that the medical staff should be on the Board of Management, I think the medical staff would accept that—at all events for some time to come. If on the other hand they should say it was desirable, the Board might accept that likewise. If we decided to-day I know, of course, you have got a number of proxies and that the Board is practically going to carry this meeting with them. We are threatened by the staff with their wholesale resignation, though I am not frightened even by that, but it would be a great calamity. No man or body of men are indispensable, but it would be a great calamity for all that, and it would be a very great calamity that the whole of the staff should carry out their threat and retire. It would also be a great calamity, if we carried the motion the other way, that that should be followed, as it might, by the retirement of the Board, as it might be regarded by them as a vote of censure. I do not want to censure anybody, and I do not think the governors ought to censure anybody, but I think we ought to endeavour to find out whether this matter cannot be so arranged in the interests of this valuable institution as that it will result in promoting its prosperity and getting rid of this domestic squabble which is not, really and truly, so important as each side seems to imagine. I am like another gentleman who has already spoken on this matter to-day, because like him I have read every word that has been printed with reference to this controversy, and I have also read every annual report for many a long year; and what has most struck me is the exaggeration that has resulted from the fact that there has been a good deal of friction, and there has been a good deal of heat and, therefore, rather more temper than is desirable. That there is a great deal of exaggeration is the conclusion to which, I confess, I have come. It is not necessary to take up your time by pointing out what I think is exaggerated excepting this one thing. I think that the Board are greatly exaggerating the dangers of having two of the staff with them. If you have two men out of twelve—I think those are the numbers—or two out of ten, it is simply impossible that they can ever dominate the Board. The Board have exaggerated their own weakness. No people are less likely than the members of this Board to be "dominated" by a couple of doctors. In fact, I am sorry they use an expression of that kind because it seems to me that in so doing they have played into the hands of their adversaries. It suggests at once that if the Board feel themselves so weak as that they fear that they may be "dominated" over by a couple of doctors—nothing could be more natural than that they should be dominated by a secretary-director. I do not believe for a moment that the secretary-director does do so, but I must say, with reference to that gentleman, that I think perhaps we may have too much of a good thing in him. We have a secretary-director who is a man of zeal and devotion to the interests of the hospital, whom it would be impossible to replace and difficult to equal anywhere else. That is the conclusion I have gathered from what I have seen and noticed—namely, that we have a secretary-director with devotion and zeal, and that it has followed as a consequence that with his thirty-two years' experience the Board do not often overrule him in his *ex-parte* statements, but that they rather agree with him and allow their judgment to go with his judgment. I hope you quite see that I do not mean that you are led, in the sense of following the lead, but I think that something of that kind certainly does take place. Unquestionably, the secretary-director has not got as much tact as one would like him to have, otherwise the rupture between the staff and the secretary-director could not have reached the point it has reached. In fact there are one or two little things—I am not going to quote them—that show that, and it simply arises, I take it, from his exceeding devotion to the interests of the hospital, and from what naturally follows—the great confidence that is felt by the Board that what *he* thinks is right is right; and that very likely may be so. But we have this principle of government in this country of ours—that we do not like one-man authority. Now I think the doctors are undoubtedly in this position, whether by their fault or otherwise, that they do not communicate freely with the Board. They are not on cordial terms with the Board because they find, practically, that they have to convince the secretary-director before they can hope to convince the Board, and that, practically, the secretary-director is a sort of buffer between them and the Board. Now that is a bad thing. I am speaking as a man of business. I may be quite wrong, but that is how it strikes me as an outsider. If that is so it is a bad thing, and it is the reason probably that we have got into the position we are in, and which we must regret that an institution like this should have got into. I think there is a little misconception which I think the gentleman who seconded the motion has left on the minds of the meeting. I think he rather misapprehends the position of the medical staff in the hospital. He made some comparison of the medical staff with the men in the employment of Sir Blundell Maple, but I would venture to say that the men Sir Blundell Maple employs and the medical staff of this institution cannot be compared. A hospital of this kind may be defined as a means of applying the skill of the doctors by the hands of the nurses and by the pecuniary means found by the governors to the poor patients, and that is not a sort of definition that you could apply either to Maple and Co. or any other large business whatever. Not at all, it is not the kind of thing. This is an institution, as is also every hospital, which has one object to accomplish—namely, the good of the patients. That is the only object which anybody ought to have in view, and it is an object which is to be accomplished by the employment of skill and the expenditure of money. Skill cannot accomplish that object without money, and money cannot accomplish it without skill. But it is for them to co-operate, as they ought to co-operate, in seeking to accomplish that object. It is a great mistake to describe the staff as "servants" in the sense of being persons who are put under the control in the sense in which I think the word has been used, and in which Sir Blundell Maple's men are under his control. The medical staff of this hospital are co-operators, and it is in that light that their services should be looked at. Now there is a proposal to give them some influence in the management of this institution by putting them personally on the Board of Management. A proposal of that kind is not at all like a proposal to put the servants of a railway company on to the directorate of a railway. It is practically done as a matter of fact, I believe, in the majority, but certainly in a very large number, of hospitals where members of the medical staff are not only on the governing body—which they certainly ought to be—but they are on the committee itself—on the select body which does all the real work, and no such evils have, in fact, resulted such as are feared here. They do not "dominate"—the two or three members who are on the various hospitals—the rest of the Board, but I will tell you what they do. They produce a consciousness in their own minds that if anything goes wrong they, at all events, will be heard and understood amongst their colleagues, and the Board also be influenced by them. Now, it is very curious that the Board actually think that the influence of the medical staff, acting as a committee, is quite

right, but that as members of the Board it is quite wrong, for they say in few words they will entirely "dominate" all their colleagues. That is exactly what it is. A recognition that the sort of influence that a man exercises by sitting amongst his colleagues and talking freely, as their equal, to them upon all sorts of subjects which come before them, is different to that which a man exercises when he has to give his decision in reference to some serious complaint. I think those are the very words from the report which I quote—"serious complaint." It is plain that there was wanted here more linen and more washing before it was obtained. It came out only, as it were, by degrees; but it has been granted. Now, if two members of the staff had been upon the Board my opinion is that it would not have been necessary to make a "serious complaint," but it would have come about imperceptibly. Nobody would have known that anybody was exercising any influence with regard to it, but it would have come about. Therefore, I think, personally, if I have to vote to-day I must vote against the Board—not by way of censuring them, as a Board, because with everything that the Board has said I sympathise entirely as to the danger on the Board of the medical profession in neglecting to see that the interests of the individual patient is greater than either the interests of science or the interests of the medical profession. There is that real danger, and I sympathise with those who recognise its reality. That is to say, I am sympathising with both sides, and I am wishing that I was clever enough to suggest some way out of the difficulty that would not produce a collision. What occurs to me is that we might adjourn this question and that Question B should be determined as to whether there should not be some gentlemen nominated, not by the doctors, but by some outside people, to consider the whole subject, then when we have their report the governors would come together to consider what action should be taken upon it. That such an important question as this should be dealt with only by a circular is not very creditable. That is the suggestion I have got up to make—that is to say, to try and postpone the decision of this question until both sides see some way out of it which will be more to the benefit of this hospital than anything that can result from the passing of this resolution.

SIR HENRY BURDETT—Mr. Chairman, ladies and gentlemen, the last speaker has taken up the position which Lord Crewe took up with regard to the Liberal party. He proposes to sit on the fence because he seems to be under the impression that on whichever side of the fence he comes down he will get his feet in a mess. I did not intend to speak, but I rose because I wish to remove that misapprehension from the gentleman's mind, and from the mind of this meeting of governors.

MR. MELVILLE GREEN—There is no mess on either side of the fence.

SIR HENRY BURDETT—I did not say there was, but you said you sympathised with both parties.

MR. MELVILLE GREEN—To some extent, certainly, but I think I expressed myself quite clearly that I thought that the medical staff should be represented on the Board.

SIR HENRY BURDETT—This is only a matter of hospital politics, and must be dealt with entirely from the point of view of hospital politics. I gathered that your impression was that the general rule, and the only rule, which governs hospitals is that the medical staff should be represented on the Board of Management. I was rising to show that there were three distinct ways of representation of the medical staff in hospitals. The first way is that the whole of the honorary officers of any hospital shall be *ex-officio* members of the Committee of Management. The second way is that two representatives of the medical board shall be elected annually by their colleagues and shall be *ex-officio* members of the Committee of Management. The third way is that the medical staff recognising that their duties are professional and that as members of a staff of a great hospital they have duties to perform to the profession as well as to their patients, prefer to maintain their independence by having a Medical Committee of their own to whom the Board of Management refers all questions appertaining to medical matters in regard to hospital management, and they then collectively have the opportunity of expressing their opinion upon those affairs and giving their united counsel, or the counsel of the majority of the staff, for the guidance of the Board which invariably regards it as a decision binding upon the Committee of Management. Therefore, I wish to point out that it has been held, in my experience of more than thirty years, by the reputed leaders of the medical profession, and by men of the highest eminence, that the wiser course for the medical profession, and the sounder course, is that they should be self-contained and independent, and shall have their own Medical Committee. That is the plan which has been followed in the government of St. Thomas's Hospital, and it is the plan which has made the great London Hospital what it is; it is the plan which prevails at the Brompton Hospital, and it is to be found in other hospitals in London like the Middlesex Hospital, where it has worked with absolute efficiency, and where peace has invariably prevailed. In fact, I remember in my early days a very aggressive member of the medical profession saying that he believed that it was the only sound way, and the only sure way, of having a peaceful and efficient government in any great medical charity. Therefore, it is not a matter to-day for the governors to decide whether they will take this one course which is recommended by the staff as being the only course of medical representation, because, as I have explained to you, there are three courses, and there is certainly a difference of opinion in the medical profession to-day as to which is the best course for the whole body to follow. The staff have taken up one course; they have decided themselves that they wish to be represented by two members, but that is only the view that is now put forward at this time after many years by your staff in connection with this institution. Now I should like to say in reference to something which fell from one speaker that I do not think that the case of employes in Maple's and of the medical staff of a great hospital are analogous at all. You have on the medical staff gentlemen who give their services without payment, and on the other hand you have employés who work for a definite payment. I see that THE LANCET this week distinctly lays it down that the medical staff are the servants of the hospital to which they are attached; but having regard to the contracts in the War Office and the difficulties which have arisen — which are analogous — between the civil and the military authorities of that department which has cost this country so much anxiety, and so much expense, and so much tribulation, I do think before any hospital, which is free from the dual control and which is free from a conflict like that which exists between rival authorities or rival professions in the War Office, should be warned by that example, and should hesitate a very long time before they seek to imitate it. My own view of the matter is that Mr. Melville Green made a very good point in saying that it is not well and that it is not possible—I think there is a great deal in this—for the staff to work smoothly when their only means of communication, their only direct means of communication, with the Board is through the chief official, when that chief official is so able and so splendid a specimen of hospital officialdom as Mr. Rawlings is. I do think that, as far as that grievance is concerned, the Board should take steps to have it removed, and I believe that the rules of the hospital provide effectual means for its removal, for I think that under the regulations it is provided that the medical committee shall consist of two members of the Board of management. It does seem to me that under that rule instead of matters being referred to the secretary-director and then being brought to the Board—in which case, no doubt, it is necessary for the medical staff to first convince Mr. Rawlings and that unless they do convince him they will not get matters before the Board—the whole of these questions should be dealt with through the Medical Committee which does provide for the representation of the medical staff and does provide for what all the speakers who have spoken thought desirable, and what I am sure we all wish, and that is the personal intercommunication of the members of the medical staff with the Board of Management. If that was clearly worked out and in future communications made through the Medical Committee on all points and the Board were to express that wish I imagine that what Mr. Melville Green says, as far as any grievance or difficulty is concerned, would be effectively removed. It would be removed constitutionally and would be calculated certainly to obviate friction and promote harmony. There is another matter which I think is certainly worthy of consideration, and I was glad that Mr. Russell agreed that it was one which should be dealt with as far as he was concerned, and that was the fact that if any member of the medical staff, or any member of the medical profession, or any other officer, as an officer, has the means and interest to qualify himself as a governor, I certainly do think that whoever they may be that they ought to have full representation under the rules with regard to their subscriptions like anybody else. It is the usual practice which prevails in other hospitals, and I think that this discussion to-day will do a great deal of good by bringing out those points which no doubt may give rise to friction, which we all regret, and which we all hope to see speedily removed. But it is perfectly clear that if the medical staff are to be represented on the Board of Management they must qualify for such representation. I do not know whether it is your constitution or what the circumstances may be, but I believe that it is a fact that this hospital, which is certainly without doubt equal to any other—and anybody who has any interest in this matter or wishes to satisfy themselves to demonstration by actual observation of the fact should certainly come to the hospital and visit it—I say of this hospital that whoever visits it must certainly come to the conclusion when they have gone over its wards and have made themselves acquainted with them, and after they have satisfied themselves according to their knowledge of the actual position of affairs, they must say that it is a splendid hospital, and a credit to the great metropolis of the Empire. There is no doubt about that. In fact, I will go so far as to say this, that Mr. Holland and myself both felt—and we came here on one of the hottest of the hot days of last month—that it was so administered that every ward was probably as cool a place as there was in any building in London, and that from top to bottom there was a maximum of cleanliness and a maximum of loyalty on the part of the nursing staff—because we took great care to satisfy ourselves upon that—in combination with their food, and that generally looking at the hospital as an institution as it exists it is a worthy representation, both structurally and administratively, of the highest efficiency which our modern civilisation has produced with regard to hospitals. It would not be fair, and it would not be right, apart from all question of controversy that there should be the shadow of a shade of doubt left as to the efficiency and the worthiness and the usefulness of the National Hospital for the Paralysed. Now, sir, the medical staff are not governors, and it is a funny thing no doubt that throughout the whole history of the institution—I believe I am correct in saying—they have never subscribed or been instrumental in bringing in money to this institution. I believe that the whole monetary power behind the medical staff at the present time with regard to this hospital, spending many thousands a year as it does, is

represented by a subscription of one guinea per year. I make that remark without any reflection on the staff, but simply to show you as we are bringing out all our points of difference that there is a very marked difference in regard to the position occupied in reference to the upkeep of this institution and the position occupied by the medical staff of other institutions and other hospitals in London in reference to the provision of money for the upkeep of those institutions. And, sir, having regard to the remark which fell from you with reference to vivisection I should like to make this point, not only for this hospital but for all hospitals. It is a very remarkable circumstance that when you ask ordinary people to give you money for anything they have always got 200 reasons why they should keep their money in their pocket. That is the case with regard to the majority, but I do think it is a little strange when we are told, as you told us, that according to the correspondence in the newspapers there is so growing an opinion on this matter of vivisection that it should take the form of a statement by the working classes in London—though I do not accept that as an accurate statement, for I do not believe that the representatives of the working classes in London really do take that view, but it is evidently the belief that they do take it because I have often heard it before—that they do not subscribe to the hospital through the Sunday or Saturday funds because by doing so they may encourage vivisection. It is true that a certain association that has to do with certain representatives of the working classes has taken up that attitude, but it is not the general attitude of the working classes. And why do I say that? Because I say it is a very remarkable thing that they should criticise and be down on hospitals when the returns of our hospitals show that every year the number of people who want to get into the hospitals, and who want to be treated by the hospitals, is growing out of all proportion to the increase of the population. In fact, we have come to this condition of affairs that the hospitals are so popular as to be almost too popular, because the increasing number of people who seem to get into them, and seem to be treated in them every year, grows in greater proportion than the percentage of increase in the population of this metropolis. I am very sorry that it should be necessary that some decision should be come to on the points which we have under discussion, but I hope that that decision may lead to modifications—and I hope the Board will accept the modifications—which have been pointed out—that representation should be given to the staff, and a means of inter-communication, and that the only means of inter-communication should not be through the Board's officer, but that the question of that rule about the representation should be altered, and that there should be that representation which has been mentioned, so that we should have in future harmonious working in this institution under a system which at present exists in some of the highest and best administered hospitals in the country, and which I know, as a matter of fact, is a principle which is highly favoured, and has always been highly favoured, by some of the most representative members of the medical profession.

The CHAIRMAN—If no other good results flowed from this meeting which is being held, as I have said before, at a rather inconvenient period for you, we have at any rate had the immense advantage of Sir Henry Burdett's speech, which being duly reported ought to do something, and ought to do much, towards clearing away the misunderstanding which exists, and towards alleviating the disagreeable feeling which prevails on this matter. I am bound to say that personally, as far as I am concerned—I cannot speak for my colleagues—that all the points made by Sir Henry Burdett seemed to be sound and just—reserving only that rather abstract opinion about the state of public feeling with regard to vivisection. Sir Henry Burdett refers to a provision once obtaining in our rules by which two members of the Board of Management had seats on the Medical Committee. That system obtained long before I was connected with the hospital as far as I know, and it was disused, I understand from Mr. Rawlings, at the wish of the medical staff, but no part of that is within my own personal knowledge.

SIR HENRY BURDETT—May I say that I sent for a copy of the rules, and upon examination of the rules I see that that rule still stands.

The CHAIRMAN—I did not mean that the rule had been repealed, but that the practice has dropped into desuetude. I understand that no two members of the Board have attended for many years. Then with regard to the advantage of free intercourse and interchange of opinions between the medical staff and the Board. I think, as I said in my opening address, that we have always had a consistent and conscientious desire that there should be that kind of communication between the medical staff and the Board. Circumstances may arise in which written communication through a third person is not as convincing as intercourse and an interchange of views personally, and we have recommended a system of representation by delegates, namely, that the medical staff should send two delegates to discuss, whenever they wish, matters in which the medical staff are concerned. That system was in working order at one time, and has only been comparatively recently allowed to fall into desuetude, but we should very cordially welcome the reintroduction of that means for an interchange of views. With regard to the speech of Mr. Melville Green, I welcome, on behalf of my colleagues, his extremely conciliatory tone, and I feel with himself that it is a question in which feeling has been unnecessarily exaggerated on both sides. I agree with him that anything that tends to the re-adjustment of relations must be welcomed by those who have the true interests of the hospital at heart. Mr. Melville Green asked me whether it had been intimated to the medical men on their being invited to attend this meeting that they would be at liberty to speak. That, I think, is answered effectually by their own letter to the *Times* on August 6th, in which they say that they cannot attend on this occasion, but that they will be ready at a meeting summoned at the proper time to place fully before the governors every question, and if that were not enough I may remind Mr. Melville Green that four of the medical staff are governors, one by subscription, and three by complimentary election; and if any of those gentlemen had attended to-day, as they could have attended to-day, although by that rather curious rule that I have referred to they would have been restricted from voting, they would have had the right to speak. Another point, as suggested by one of my colleagues, is this, that it was not necessary if any of these practical grievances were brought forward by the staff that they should make a formal representation to Mr. Rawlings, because, as I am reminded, and as I understand, the slightest hint to the sisters in charge of the ward or to the lady-superintendent would have produced the desired result. With regard to the relations between the medical men and the nursing staff the Board never interfere; I mean there is free interchange of opinions between the medical men and the ladies who have charge of the patients in the several wards; and all the grievances or complaints or interests of those patients can be brought to the knowledge of the executive authority by the mere mention of the case to the sisters in charge. I think those are the only points in either of the two last very valuable speeches to which I need refer. But now I must speak in my capacity as Chairman, and I think that, considering that notice has been formally given by means of the advertisement in the *Times* agreeably to our rules with reference to the matters to be dealt with at this said general meeting, I am bound to invite a vote upon the only one of the two points at issue on which a resolution has at present been moved. That is entirely without prejudice to a second resolution being moved if anybody thinks fit to move it. The resolution which has been moved, seconded and supported is this: "That it is inexpedient to grant the demand of the medical and surgical staff for direct representation upon the Board." As I was the mover of that resolution it would not be fitting that I should put it to the meeting. I will therefore ask Mr. Bower to take a show of hands on the motion.

SIR HENRY BURDETT—May I ask whether that rule with reference to the representation of two members of the Board on the Medical Committee has not become inoperative because no members of the Board have been appointed of recent years.

The CHAIRMAN—Mr. Pearman is an older governor than myself. I will leave him to answer the question.

MR. PEARMAN—Perhaps, as I have been a member of the Board for some twenty-five years, I may be able to say something as to this. It was at one time the custom for two members of the Board to sit upon the Medical Committee, but the time came when the Medical Committee thought that the privacy of their discussion had been somewhat interfered with, and there were other reasons, which were best known to themselves, why they thought it was undesirable that members of the Board should, in fact, sit upon their committee; and the Board feeling that the Medical Committee could at all times communicate with them whenever they thought proper, either by the resolution of their committee or by delegates to any meeting of the Board, allowed the rule to fall into desuetude, and for some years—a great many years, I think, I am unable to name the number—no members of the Board have, in fact, had a seat upon the Medical Committee.

SIR HENRY BURDETT—But I think you said, sir, that you were prepared to revive the rule?

The CHAIRMAN—Certainly. I have no doubt—I am unable to speak for the Board as a whole—but I have no doubt if the Medical Committee desire members of the Board to sit on the committee two members of the Board would be appointed for that purpose, and that the Board would be quite ready to appoint two members to sit upon their committee, and to hear any complaint or suggestion that the committee might wish to make.

SIR HENRY BURDETT—It seems to me that that rule is a most important one. It has never been abrogated, but it has fallen into desuetude, and we are of opinion that if it had been acted upon we should never have been called together. We think, therefore, that it should be clearly understood, and that it should go out that the Board are willing that that rule should continue and again come into operation at once.

MR. PEARMAN—Of course I cannot pledge the Board, but I think there can be no doubt, sir, that if the Medical Committee wish it the Board would be very happy no doubt to appoint two of their members to sit upon the committee.

MR. MELVILLE GREEN—Will you put it further than that? Will you say that the Board will consider the matter and suggest it to the Medical Committee—that is to say, that this rule should be revived at the suggestion of the Board?

The CHAIRMAN—I will undertake on behalf of the Board to give that undertaking.

MR. BOWER—I have been asked to put the resolution that the Chairman has proposed. Those in favour of the resolution will kindly signify the same by holding up their hands. In favour 14. Against 2.

The CHAIRMAN—It is my duty, then, to declare that carried. Now I have to ask the indulgence of the meeting for Mr. Burford Rawlings who wants to speak.

MR. RAWLINGS—Mr. Chairman, ladies and gentlemen, I only wish to have the opportunity of saying a word or two in reference to one remark which fell from a gentleman who spoke—Mr. Melville Green

I think it was—about a want of tact on my part. I think I should like to say on that point with your permission that I am not conscious that I have ever been charged with want of tact. I know I have many shortcomings but I do not believe that is one of them. I may say that the origin and genesis of any feeling on the part of the staff arose out of my application of the rules of the hospital to a particular case. It was recommended for admission and it was ineligible.

The CHAIRMAN—Will you just state the case?

MR. RAWLINGS—It was a case where an idiot child that had been adjudged an idiot by the examining physician was brought to the Board room for me to see and I was asked by the steward whether it would be right to admit that child to the ward. The child was undoubtedly a most terrible idiot. If I were to enter into particulars it would take me a long time, but as far as is necessary to do so I may say that it was spitting all over the carpet of the Board-room during the few minutes its mother was with me, it was kicking at the furniture, and it tried to upset the ink; and, besides that, it was making a great many noises. The mother told me that was the condition of the child from morning to night, and almost from night to morning. It was proposed to send that child, contrary to our rules, into the children's ward; and I refused to sign the order for its admittance. The case was ultimately referred to the Board of Management, but I have simply to point out that in carrying that out I was obeying my rules—the rules under which I work—after the physician himself had noted the case as a case of idiocy, and therefore I was only putting this rule into operation.

MR. PEARMAN—Will you read the rule, Mr. Rawlings?

MR. RAWLINGS—The bye-law is this, on page 38 of the rules: "Persons labouring under or liable to attacks of epileptic mania or who are imbecile" are ineligible. No. 4: "All other persons of unsound mind, unless the examining physician is able to certify that the mental symptoms are temporary and due to some bodily condition which may be speedily removed by treatment, and will not render them a source of danger or serious discomfort to other inmates," are also ineligible. What I have to point out to you is that this child would have been a source of great discomfort to, and, in fact, it would have been a most terrible infliction on, the other children in the wards to have allowed that child to go there, but from that one instance I think all the trouble has arisen. I certainly know of no other case in which I have been in collision with the staff.

The CHAIRMAN—We have now disposed of the controversial part of our business and, as I said at the outset, the Board of Management do not wish to prejudice the discussion of the second question by indicating any opinion one way or another. We are confined by the terms of our notice to discuss the one resolution which has been disposed of. As to the second, whether it is desirable to hold a further inquiry into the condition of the hospital, I have no instructions to move a resolution upon that, but it is open to any governor to move such a resolution and failing the moving of such resolution the subject must be dropped.

MR. INNIS—May I ask you, sir, to give a statement as to the number of proxies that you hold on behalf of the Board?

MR. MELVILLE GREEN—The proxies were not counted.

MR. INNIS—I am quite aware of that; but Sir Henry Burdett, who has left the meeting, requested me to ask that.

The CHAIRMAN—I must ask the secretary to give the details.

The SECRETARY—At present the Board holds the proxies of 170 governors.

MR. MELVILLE GREEN—Is that the end of the business?

The CHAIRMAN—There is nothing else on the agenda.

MR. MELVILLE GREEN—Then, sir, as I have been the only opponent of the Board may I move a vote of thanks to the Chairman for his conduct in the chair, which I do very cordially indeed.

MR. BOWER—Might I suggest that the best thanks be not only given to the Chairman for his conduct in the chair but also to his colleagues on the Board for their past conduct in the management.

MR. MELVILLE GREEN—I think we had better put it as colourless as we can. We must be as colourless as possible. There can be only one opinion as to the way this meeting has been conducted, but if there is any difference of opinion about other things I do not think we ought to express it.

MR. INNIS—I shall have very great pleasure in seconding the resolution.

The resolution was carried *nem. con.*

The CHAIRMAN—Allow me to thank you, ladies and gentlemen. I make my acknowledgments to the governors, in the first place, for putting me in the chair, and in the second place for supporting me in it, and now for thanking me for my conduct in conducting the meeting. I understand Mr. Bower wishes to move something else.

MR. BOWER—I think, sir, after the expression of opinion from Mr. Green I will not do so.

Parliamentary Intelligence.

The Session from a Medical Point of View.

THE session of Parliament which closed on Wednesday, August 8th, cannot be said to have yielded much in the way of legislation of special interest or value to the medical profession. Measures of this description were introduced in both Houses, but few of them made substantial progress and fewer still passed into law. The sum of the latter is represented by a Public Health Act for Ireland, an Act to prohibit the employment of children underground in mines, and an Act enabling county and town councils in Scotland to impose a rate to meet the expenses of the Inebriates Act of 1898. An important Bill was introduced in the House of Lords by the Government to amend and strengthen the administration of the Lunacy Laws. It was designed, among other things, to deal with such irregularities as have been exposed recently in St. Pancras and other metropolitan parishes in connection with the certification and accommodation of lunatics. The Bill made a quick and comparatively easy passage through the House of Lords, but it came to grief and was abandoned in the House of Commons in spite of the cordial recommendation which it received from the Lord Chancellor. Medical men set great store by the Companies Bill because it contained a clause saying that it shall be unlawful for a company to carry on the profession or business of a physician, surgeon, dentist, or midwife. This clause was intended to put down unqualified and fraudulent practice by registered companies who in the present state of the law defy the Medical Acts. At one time it constituted a Bill by itself, but last year at the instance of the Lord Chancellor it was put into the Companies Bill when that measure was before the House of Lords. In the session just concluded the Bill was introduced in the House of Commons and when it fell to be considered by one of the standing committees the Minister in charge of it, Mr. Ritchie, President of the Board of Trade, supported a motion for the omission of the clause. He did so on the ground, not that he objected to the proposed extension of the law, but that he considered the clause was not germane to the Bill. In the Standing Committee Mr. Ritchie was defeated, but when the Bill was considered in the whole House on report he carried his point and the clause disappeared from the Bill. Sir John Batty Tuke, representing medical opinion, expressed regret at the course adopted by the Government, and intimated that in another session he will bring forward proposals on the subject. Another disappointment was the loss of the Medical Acts Amendment Bill. This measure was introduced late in the session by Sir Richard Jebb, and though it was known to have the support of all the university representatives and of the President of the Privy Council it failed to pass—indeed, it got no further than the first reading. It is scarcely necessary to explain that the Bill was the handiwork of the General Medical Council and was designed to strengthen the disciplinary powers of that body and enable universities and medical corporations to withdraw their diplomas from men who have been removed from the Medical Register for misconduct. General Laurie introduced a Bill to entitle certain colonial medical practitioners to registration, but he made no progress with it. What suggested the Bill to General Laurie was the refusal of the War Office to accept the services in South Africa of Canadian surgeons on the ground that they were not registered. Another measure which proved abortive was the Medical Officers of Health and Sanitary Inspectors Bill. It was introduced by Dr. Farquharson and sought to improve the tenure of these important public officials and provide for them a system of superannuation allowance. No progress was made with it beyond the first-reading stage. Other Bills which failed to pass were the Petroleum Bill, to raise the statutory flash point of petroleum; the Dogs Regulation Bill, a measure introduced by the President of the Board of Agriculture as a substitute for the muzzling orders; the Factories and Workshops Bill; the Cremation Bill; and the Isolation Hospitals (Amendment) Bill. The Midwives Bill requires mention by itself. It was introduced early in the session by Mr. Tatton Egerton and coming on unexpectedly one Wednesday afternoon it received a second reading and was referred to the Standing Committee on Law. This Committee went through the clauses and made many amendments as well as several additions. The Bill came back to the House on March 27th but its report stage was not reached until after Whitsuntide and then only during the last hour of the last sitting allocated to Bills promoted by private Members. A motion was made for the rejection of the Bill and this motion was "talked out," the last speaker before Mr. Heywood Johnstone, one of the chief promoters, who appealed to the Government to take up the subject in another session. It is a safe conjecture that if in another session the Government do not take it up Mr. Heywood Johnstone and his friends will put forward another Bill of their own. There are two subjects upon which many medical men looked for legislation during the past session—one death certification and the other the use of preservatives and colouring matters in food. With regard to the former Mr. Chaplin has made a public declaration that he is inquiring into the subject with a view to legislative proposals, while with regard to the latter all that can be said is that Sir Herbert Maxwell's Committee has not yet reported, pending the conclusions of an experimental inquiry.

PRESENTATION TO A MEDICAL MAN.—Mr. R. Allan, M.D. Glasg., medical officer of health of the Burgh of Ardrossan, was on July 31st entertained to dinner in the Eglinton Arms Hotel on his having completed 25 years' medical practice in the burgh, the occasion being marked by the presentation to him of a massive piece of silver plate and a purse containing £140 as testimonials of the respect and confidence he had gained from all classes of the community.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADDISON, E. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Workhouse and the Coddenham Sanitary District of the Bosmere and Claydon Union, vice M. T. Kelly, resigned.

BATHURST, L., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Ellesmere and the Civil Parishes of Ellesmere Rural, Welshampton, Cockshutt, and Hordley, in Ellesmere Rural District.

BATTEN, WILLIAM SMITH, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the No. 2 District of the Calne Union.

BRANGAN, J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of the Kilskyre Dispensary District, vice T. Canton, deceased.

BRISCOE, WILLIAM THOMAS, A.B., M.D., M.C.H. Dubl., has been appointed Medical Officer to the Chippenham Isolation Hospital by the Chippenham Town Council.

CALNAN, P. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Surgeon to the Midland Railway Company for the Syston District of Leicester, vice W. C. Dalley, resigned.

CLARK, R. D., M.B., B.S. Aberd., has been appointed Assistant Medical Officer to the Walton Workhouse of the West Derby Union, vice E. J. Weightman, resigned.

DALLEY, H. P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Surgeon to the Midland Railway Company for the Syston District of Leicester, vice W. C. Dalley, retired; also Medical Referee to the Prudential Assurance Company for the Syston District of Leicester, vice W. C. Dalley, retired.

HARDING, NORMAN E., M.B., Ch.B. Edin., has been appointed Civilian Medical Officer to Her Majesty's Forces in South Africa.

HUTCHINSON, C. G., L.R.C.P. Irel., M.R.C.S., has been appointed Medical Officer to the Bluecoat School, Birmingham.

JONES, J. H., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory Acts for the Maesteg District of Glamorganshire.

KING, A., M.B., C.M. Edin., D.P.H. Lond., has been appointed Medical Officer of Health for the Watford Urban District, vice D. H. Attfield.

LITTLER, R. M., F.R.C.S., D.P.H. Vict., has been appointed Certifying Surgeon under the Factory Acts for the Borough of Southport, Birkdale Urban District, and the civil parishes of Ainsdale and North Meols, in Ormskirk Rural District.

MACKENZIE, D. J., M.D. Aberd., has been re-appointed Medical Officer of Health by the Glossop Town Council.

RAMSDEN, H., M.D. Lond., D.P.H. Vict., has been appointed Medical Officer of Health for the Saddleworth Urban District, vice W. H. F. Ramsden, deceased.

RHYS, W. L., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Urban Districts of Aberdare and Mountain Ash.

ROBINSON, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Preesall with Hackinsall Urban District.

SKIPWORTH, H., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Quorn Urban District Council.

SYKES, WILLIAM, M.D., has been appointed Honorary Medical Officer to the Woking Victoria Cottage Hospital.

THOMAS, G. CREWDSON, M.B., C.M., M.R.C.P. Edin., has been appointed Registrar to the Chelsea Hospital for Women, Fulham-road, London.

TROW, AUGUSTUS VIVIAN, M.B., C.M. Aberd., has been appointed Surgeon to the Police at Devizes, vice J. Ambrose, resigned.

WILLIAMS, W. R. E., M.B., Ch.B Edin., has been appointed Assistant Medical Officer to the Infirmary of the West Derby Union, vice J. Hay, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHANTI FIELD FORCE.—Experienced Dressers for six months in the Colony, with pay at the rate of £20 a month, and other money, &c., arrangements. Address to the Assistant Private Secretary, Colonial Office.

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence. Also Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRECON INFIRMARY, No. 6, Bulwark, Brecon, South Wales.—Resident House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, fire, and gas.

BRIGHTON, HOVE, AND PRESTON DISPENSARY (WESTERN BRANCH AND COTTAGE HOSPITAL), 113, Queen's-road, Brighton.—House Surgeon. Salary £120 per annum, with board and residence.

CANCER PAVILION AND HOME, Manchester.—Surgical Officer.—Applications to Mr. E. W. Marshall, 38, Barton Arcade, Manchester.

CHESTER GENERAL INFIRMARY.—Second Resident Medical Officer. Salary £80 per annum, with residence and maintenance in the House.

CITY OF BOMBAY.—Executive Health Officer for five years, renewable conditionally. Monthly salary arranged.—Apply to the Municipal Commissioner for City of Bombay, care of Mr. John Lithiby, Local Government Board, Whitehall.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—District Surgeons to the Hospital for the Eastern Division of Bethnal Green and for South Tottenham.

CITY OF SHEFFIELD.—Assistant Resident Medical Officer for the two City Hospitals for the Treatment of Cases of Infectious Diseases. Salary £150 per annum, with board, lodging, and attendance. Applications to the Town Clerk, Town-hall, Sheffield.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising £10 annually to £150, with board, furnished apartments, &c.

COUNTY ASYLUM, Lancaster.—Assistant Medical Officer. Salary commencing at £125 per annum with the usual allowances.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £100, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—In-door Dispenser and Assistant to the House Surgeon. Honorarium 20 guineas per annum, with board, lodging, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Second House Surgeon, unmarried. Subject to annual re-election. Salary £70 per annum, with board, lodging, and washing.

GENERAL INFIRMARY, LEEDS.—A House Surgeon and a House Physician. The former appointed for 12 months and the latter for six months. Board, lodging, and washing provided.

GESTO HOSPITAL, Isle of Skye, N.B.—Resident Medical Officer. Salary £200 per annum, with free furnished house, garden, coals, light, and taxes. Apply to Mr. J. Simpson, Portree.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Anæsthetist for twelve months. Honorarium 10 guineas per annum. Applications to Mr. L. H. Glenton-Kerr, Secretary.

HEREFORD COUNTY AND CITY ASYLUM.—Locum Tenens Assistant Medical Officer for ten or twelve weeks about the end of August. £3 3s. a week, with board, lodging, washing, and attendance.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £80 per annum, with board and lodging.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, 74, King-street, South Shields.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

ISLAND OF GUERNSEY.—Medical Officer of Health. Salary £200 (British currency), with local travelling expenses. Applications to be addressed, "Board of Health," States Office, Guernsey.

KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 a year, with board and lodging.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence at the Infirmary.

NOBLE'S ISLE OF MAN GENERAL HOSPITAL AND DISPENSARY, Douglas, Isle of Man.—Resident House Surgeon, unmarried. Salary £72 per annum, with board and washing.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with furnished apartments, board, attendance, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Assistant Resident Medical Officer. Salary £50 per annum, with board, residence, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all round except board.

OWENS COLLEGE, Manchester.—Additional Demonstrator in Anatomy, for the Winter Session.

PARISH OF SLEAT.—Medical Officer and Public Vaccinator. Salary £100 per annum. Applications to the Chairman, F. C. Manse, Sleat, Broadford, N.B.

ROTHERHAM HOSPITAL.—Senior House Surgeon. Salary £105 per annum, with board, lodging, and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AT VENTNOR.—Clinical Assistant. Salary £40, with board and residence. Apply to the Secretary, London Office, 34, Craven-street, Strand, W.C.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London.—House Surgeon and Registrar for six months, unmarried. Salary at the rate of £100 per annum, with residence and partial board.

RUBERY-HILL ASYLUM, Barnt Green, Worcestershire.—Junior Assistant Medical Officer, unmarried.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King-street, Regent-street, W.—Locum Tenens for one week. Salary 4 guineas, and residence. Personal applications.

SHEFFIELD UNION WORKHOUSE INFIRMARY.—Junior Assistant Medical Officer, at the Workhouse Infirmary, Fir Vale, Sheffield, for one year, unmarried. Salary £70, with furnished apartments, board, and washing. Applications to the Clerk to the Guardians, West Bar, Sheffield.

STAMFORD-HILL AND STOKE NEWINGTON DISPENSARY, 189, High-street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

THE CHIEF INSPECTOR OF FACTORIES gives notice of a vacancy as Certifying Surgeon under the Factory Acts at Edenbridge, in the county of Kent.

TOWNSHIP OF MANCHESTER.—Junior Resident Assistant Medical Officer at the Workhouse at Crumpsall for one year, unmarried. Salary £100, with furnished apartments, fire, light, washing, and attendance. Apply to the Clerk to the Guardians, Offices, New Bridge-street, Manchester.

UNIVERSITY OF GLASGOW.—Professor of Clinical Medicine.

UNIVERSITY COLLEGE, CARDIFF.—Demonstrator and Assistant Lecturer in Anatomy and Demonstrator and Assistant Lecturer in Physiology. Salary in each case £120.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital.

VICTORIA HOSPITAL FOR CONSUMPTION, Craigleith, Edinburgh.—Resident Physician. Residence and board and nominal honorarium in lieu of conveyance. Also non-resident Clinical Assistant. Honorarium at the rate of £60 per annum. Both appointments for six months. Apply to the Hon. Secs., 1, North Charlotte-street, Edinburgh.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WEST NORFOLK AND LYNN HOSPITAL, King's Lynn.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

ASHBY.—On August 7th, at Bilton Garth, Hampsthwaite, *viâ* Leeds, the wife of John Ashby, M.R.C.S., of a son.

BAKER.—On August 9th, at The Mount, Witley, Surrey, the wife of John Charles Baker, M.B., of a daughter.

CARGILL.—On August 9th, at Bickenhall Mansions, Gloucester-place, W., the wife of L. V. Cargill, F.R.C.S., of a daughter.

COOKE.—On August 11th, 1900, at Bridge-street, Cambridge, the wife of Arthur Cooke, F.R.C.S., of a daughter.

CORBIN.—On August 10th, at Moore House, Beckenham, Kent, the wife of E. R. St. Clair Corbin, M.B. Lond., M.R.C.S., of a daughter.

CORY.—On August 9th, at Tower House, Bournemouth, the wife of E. R. Haines Cory, M.R.C.S., L.R.C.P. Lond., of a son.

MEGGISON.—On August 11th, at Lewisham High-road, St. John's, S.E., the wife of T. C. Meggison, M.D., of a son.

NEALE.—On August 8th, at St. Margarets, Twickenham, the wife of Albert E. Neale, M.B., B.S., of a daughter.

STUART-LOW.—On August 12th, at Yealand, Herne-hill, S.E., the wife of William Stuart-Low, F.R.C.S. Eng., of a son.

WILLIAMS.—On August 13th, at Dunstaffnage, Brockley, S.E., the wife of Chisholm Williams, F.R.C.S. Edin., of a daughter.

MARRIAGES.

AHRENS—WILKINSON.—On August 8th, at St. John's Church, Upper St. Leonards-on-Sea, Henry Augustus Ahrens, M.R.C.S., L.R.C.P., of Basingstoke, to Beatrice, daughter of the late George Goodley Wilkinson of Delamere-road, Wimbledon.

CLEVELAND—JACKSON.—On August 11th, at St. James's, Kidbrook, Arthur John Cleveland, M.D. Lond., M.R.C.P., youngest son of the late Henry Cleveland of Blackheath, to Evelyn Mary, elder daughter of Edward Jackson of Blackheath and Karachi, India.

SCORER—NORRIS.—On August 9th, at Holy Trinity, Bournemouth, by the Rev. C. P. Koelle, M.A., assisted by the Rev. Malcolm W. Brown, M.A., Frank Scorer, M.R.C.S., L.R.C.P., second son of Alfred Scorer of Upper Hamilton-terrace, London, to Violet Eleanor Norris, only daughter of Alfred Norris of Catford, Kent.

SYMONS—BENNETT.—On August 9th, at Salisbury Cathedral, Captain Frank Albert Symons, Royal Army Medical Corps, son of John H. Symons of Halifax, Nova Scotia, to Dorothy, second daughter of the late Edmund Grove Bennett, of The Close, Salisbury.

TAYLOR—SOUTHALL.—On August 10th, at the Friends' Meeting House, Bull-street, Birmingham, E. Claude Taylor, M.D., M.S., of Bland House, Hampstead, and Huldah R. Southall, daughter of Alfred Southall of Birmingham.

DEATHS.

ANDERSON.—On August 9th, at New-cross-road, S.E., John Anderson, M.D., in his 82nd year.

BARKER.—On July 7th, 1900, at Kuching, Sarawak, Constance, the dearly beloved wife of A. J. G. Barker, Principal Medical Officer, Sarawak.

BLAKE.—On August 10th, suddenly, at his residence, Denbigh-road, Bayswater, Andrew Henry Blake, M.R.C.S., aged 60.

MALLETT.—On the 8th instant, at his residence, Newport House, Bolton, Frederic Blakesley Mallett, M.D., J.P., aged 59 years.

O'CALLAGHAN.—On August 12th, at Queen's Mansions, Surgeon-General Daniel James O'Callaghan, late of the H.E.I.'s Co.'s service, in his 88th year.

SIMPSON.—On August 11th, at Auchengrange, Lochwinnoch, Pierce Adolphus Simpson, M.A., M.D., Emeritus Professor of Forensic Medicine, Glasgow University, aged 63.

SMITH.—On August 12th, at Grafton-terrace, Cheltenham, Samuel Wagstaff Smith, M.D., late of Pershore, Worcestershire, in his 65th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PROTECTION OF PARTURIENT WOMEN AND NEWLY-BORN CHILDREN.

To the Editors of THE LANCET.

SIRS,—At the quarterly meeting of the Medical Guild held at the Medical Common Room, 64, Bridge-street, Deansgate, Manchester, on July 26th last I had the honour of proposing that the council should be instructed to take into consideration the drawing up of a scheme for the "protection of parturient women and newly-born children with a view to legislation." This was carried and the council have appointed a sub-committee to deal with the question. As I am the honorary secretary of the committee I shall be glad to have any suggestions from any of your readers in order to make the scheme as satisfactory as possible to the profession at large and one which shall have its cordial support. The main idea is suggested in the title and this will be rigidly adhered to and differs from previous attempts at legislation whose object has been more or less for the registration and legal promotion of midwives. We contend that as far as possible the skill of those legally registered to practise medicine, surgery, and midwifery should be placed by the State at the disposal of every parturient woman—that public obstetricians should be appointed in all districts with a view to this, just as we have public vaccinators who are paid by the State, and as the public is protected by local corporate bodies by the compulsory notification of infectious diseases. I do not consider it necessary to enlarge upon the advantages to public health which such a scheme if properly carried out would be. So long as the committee receive as many suggestions as possible it is a matter of indifference whether they are addressed to me personally or appear in your columns with a view of giving rise to a discussion. The more the matter is discussed the more likely are we to arrive at a sound and lasting conclusion of this difficult question. On the other hand, if practitioners will not avail themselves of opportunities to express their views upon this subject either publicly or privately they will have no one to blame but themselves if legislation takes place in a manner contrary to their desires.

I am, Sirs, yours truly,

G. H. BROADBENT.

Ardwick-green, Manchester, August 11th, 1900.

"A MAN WITH A QUIVERFUL."

UNDER the above heading the August number of the *Dublin Journal of Medical Science* mentions that a French Canadian living in a Rhode Island town was recently presented by his third wife with his forty-first child. His first wife gave birth to several pairs of twins, and his second presented him with three sets of triplets. Thirty-six of the children are living and many of them have families of their own. Eight of the grandchildren also are parents.

A DISGUSTING THREAT.

To the Editors of THE LANCET.

SIRS,—I have had during the last week an anonymous letter which I know by the writing to be from a medical student who has only to take his final now. In it he says: "I will meet you one day," and here he threatens to scratch me with a hypodermic syringe containing syphilis bacteria. He puts it: "Not death but disease." Now I fully believe that this heathen is fool enough to try something on like this. Is it possible that the imbecile could have the power to get hold of stuff like this, and would a scratch be sufficient to inoculate anyone with such a disease? If so, it is high time that such things should be well looked after and put out of the way of such lunatics who aspire to the medical profession. I don't wish to harm the fellow (as I most certainly could do on production of the letter) for the sake of his father and mother.—I am, Sirs, yours faithfully,

August 14th, 1900. NEMO.

*** Successful inoculation under the circumstances described would be rather difficult and disinfecting measures applied immediately might nullify the poison. The threat is probably an idle one; but it is of such a heinous character that we advise our correspondent, having made quite certain that he knows the offender's identity, to communicate with someone having authority over him—either his parents or the police. No one should be allowed to write such letters with impunity. But just because the offence is so serious our correspondent must be particularly careful not to make his accusation on any but the most convincing evidence.—ED. L.

A NOTE ON SOUND.

To the Editors of THE LANCET.

SIRS,—Walking with a lady, and in earnest conversation with her about our unhappy South African war, with a sudden gesture she said: "Doctor, I must go home quick, baby is crying." We were a mile from the house, out of sight of the house, but in 15 minutes we found that it was quite true. The baby—four months old—had been crying for a quarter of an hour. We have not lost our acute sense of sound. In this case thought and the sight of the dwelling seemed to

be out of the question, and only hearing could account for the call given. The wonderful weird quiet of a calm night on the South African veldt is so different, recognisable but indefinable, from the gentle murmur which awakes man and beast as the impact of daylight mobilises every atom on the face of the land. The vulture perhaps sees the dying beast lying on the open veldt; probably smells it as putrefaction sets in; but the heavy breathing and the groan of a dying animal are in all likelihood sufficient to fetch him many miles from his haunts, to hover over his prey till the end has come. The vulture is a coward and does not approach the house in which dying or dead lie.

I am, Sirs, yours faithfully,

J. H. NANKIVELL, M.R.C.S.,
House Surgeon, Butterworth Hospital.

Cape Colony, July 14th, 1900.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 16th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Aug. 10	29·86	N.W.	0·13	95	65	55	56	57	Overcast
,, 11	30·32	S.W.	...	108	76	53	57	60	Hazy
,, 12	30·34	S.W.	...	111	83	58	63	68	Bright
,, 13	30·37	W.	...	119	88	60	63	67	Hazy
,, 14	30·35	N.	...	119	85	62	62	67	Hazy
,, 15	30·30	S.E.	...	115	74	60	61	65	Cloudy
,, 16	30·12	E.	...	116	76	60	62	66	Bright

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (25th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—WEST LONDON POST GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: The Application of Splints to the Upper Extremity.

THURSDAY (23rd).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: The Application of Splints to the Lower Extremity.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1900, which was completed with the issue of June 30th, and the Title-page to the Volume, were given in THE LANCET of July 7th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1900 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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